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No. 82-___

IN THE

Supreme Court of the United States

OCTOBER TERM, 1982

ARTIC INTERNATIONAL, INC.

Petitioner,

v.

MIDWAY MFG. CO.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

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PRESS OF BYRON S. ADAMS PRINTING, INC., WASHINGTON, D.C.

QUESTIONS PRESENTED

1. Whether claims of copyright may be asserted over every one of the indefinitely large number of different visual displays that ever did or ever will occur in the performance of a video game, whenever a human being interacts with the computer and computer program of the video game machine.

2. Respondent sold video game machines to customers. The machines included as component parts computer chips containing computer program material used to operate the machines to play a video game work copyrighted by respondent. Later, petitioner sold these machine owners substitute computer chips containing enhanced versions of the original computer program material. The enhanced computer program speeded up and changed the video game. The purpose of using the enhanced program was to improve the owners' earnings from their machines.

The question presented is whether petitioner is liable for contributory copyright infringement for selling the substitute computer chips to the machine owners.

3. Whether it was reversible error for the lower court to disregard, in granting a preliminary injunction against alleged copyright infringement, petitioner's "unclean hands" and misuse defense that respondent's copyright infringement action against petitioner was brought in furtherance of an unlawful conspiracy to divide markets.*

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*Rule 28.1 statement: Petitioner, Artic International, Inc., has no parent, subsidiary, or affiliate.

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

Artic International, Inc., petitions for the issuance of a writ of certiorari to review the decision and judgment of the Court of Appeals for the Seventh Circuit in *Midway Mfg. Co.* v. *Artic International, Inc.*, No. 82-1607, issued on April 11, 1983.

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. A, pp. 1a-9a, *infra*) is not yet officially reported. The March 10, 1982, opinion of the district court (Pet. App. B, pp. 10a-37a, *infra*) is reported at 547 F. Supp. 999. Two earlier opinions of the district court, dated June 2, 1981 (Pet. App. C, pp. 38a-61a, *infra*), and June 11, 1981 (Pet. App. D. pp. 62a-64a, *infra*), are not officially reported. The June 2 opinion is reported unofficially at 211 U.S.P.Q. 1152. The June 11 opinion is reported unofficially at 1981-2 Trade Cases (CCH) ¶ 64,170.

JURISDICTION

The decision of the court of appeals was issued on April 11, 1983. The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTES INVOLVED

Sections 101, 102, 106, 117, and 501 of the Copyright Code, as amended, 17 U.S.C. 101, 102, 106, 117, and 501, are reproduced in pertinent part in Appendix F, pp. 67a-69a, *infra*.

STATEMENT

A. Introduction

The petition seeks review of the grant below to respondent Midway of a preliminary injunction (Pet. App. E, p. 65, *infra*) against petitioner Artic. The injunction prohibits Artic from selling printed circuit boards to persons who compete with Midway in the sale of video game machines similar to Midway's "Pac-Man" machines, and prohibits Artic from selling replacement parts (known as "speed up kits") to persons who bought "Galaxian" video game machines from Midway. The judgment of the court of appeals is a reviewable judgment under section 1254(1). Cf. *Fortnightly Corp.* v. *United Artists Television, Inc.*, 392 U.S. 390, 393 (1968) (§ 1292(b)). Moreover, for all practical purposes these are also ultimate judgments in the case adverse to Artic; this is, in fact, the end of the road for Artic. The preliminary injunction has put Artic out of business. Artic has no litigable defenses on which the courts below have not already ruled adversely to it. It does not appear that any factual or legal issues remain for determination on a remand, which would absolve Artic from liability.

This case concerns the validity, scope, and enforceability of a novel kind of federal copyright—one that had never been heard of before a few years ago, and one on which this Court has never ruled. Midway sued Artic, and the courts below found Artic liable to Midway, for infringing copyrights in two video games, the "Pac-Man" and "Galaxian" games. Video games are equally novel, although they now earn their proprietors be-

tween $5 and $10 billion annually—more than the motion picture and phonograph record industries combined. *Business Week*, Dec. 6, 1982, p. 39 ($7 billion); *Play Meter*, Nov. 15, 1983, p. 44 ($7.7 billion in collections). Respondent Midway has sold more than $200 million worth of machines to play the "Pac-Man" video game.[1] Clearly, there is a great deal of money at stake on the question of copyrightability of video games.

B. The Video Games in Suit

Video games are games that a customer plays against a computer. In the case of many such games, including those involved in this case, the computer causes a simulated "attack" against the customer to be played out on a TV screen display directed by the computer. In the case of the arcade type video games involved in this case, the customer, or player, pays a quarter to pit his dexterity and wit against the computer. The computer always defeats the player, eventually, but the longer the player is able to withstand the attack directed by the computer, the higher a point score he gains; the object of the game is to gain as many points as possible from the computer, before the computer eliminates the player.

In the "Pac-Man" game, the player manipulates a cartoon figure known as "Pac-Man" through a maze on a TV screen; "ghosts" alternately pursue or flee from Pac-Man, trying to destroy him or avoid being destroyed by him. The object is for Pac-Man (representing the player) to "gobble" up as many dots as possible, within the maze, before being eliminated by the ghosts. See Pet. App. B at 13a.

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[1] The district court said that Midway had, by March 1982, sold over 40,000 "Galaxian" video game machines and over 80,000 "Pac-Man" machines. Pet. App. B at 14a. The district court also said that "[t]he goods are worth approximately $3,000-$4,000." Pet. App. C. at 45a-46a. The product of 80,000 and $3,000 is $240 million. The corresponding value of the 40,000 "Galaxian" machines at the same $3000 per machine is approximately $120 million.

In the "Galaxian" game, a horde of alien "insects" are supposed to be dedicated to the extermination of mankind, represented in the game by the customer. The player tries to destroy as many aliens as possible before they overwhelm him. *Id.*; Pet. App. C at 39a.

The machines for playing these games contain printed circuit boards in which computer "chips" (integrated circuit semiconductor devices) are mounted. One such chip is known as a microprocessor; it is the central processing unit of the machine, and it manipulates electronic signals to produce the TV screen's visual display of the games. Other chips are known as "ROMs" (an acronym for read-only-memory). Some ROMs, so-called "character ROMs," have stored within them a pattern of microscopic transistors (which act as switches) that the microprocessor can call upon to produce electrical signals that can be converted into visual displays of the game's "characters." An example of such display material stored in the character ROMs is a set of figures of Pac-Man with his mouth closed, partly open, and fully open. The display of these different figures rapidly in the foregoing sequence and then in reverse, at the same location on the screen, gives the beholder the visual impression of Pac-Man opening and closing his mouth ("gobbling" or "munching").

Other ROMs, so-called "program ROMs," have stored within them a pattern of microscopic transistors representing a computer program, and the microprocessor can call upon them to produce signals that move the figures of the characters to one place or another on the TV screen, in response to what the player does with a lever (known as a "joystick") and push button on the outside of the machine. See Pet. App. B at 12a. For example, when the player moves the joystick to the right, the figure of Pac-Man on the TV screen appears on the screen to face right and move in that direction. If the player moves the joystick up, the Pac-Man figure moves upward. The joystick produces an electrical signal that the microprocessor combines with signals derived from ROMs, thereby producing signals that cause these figures to appear as part of the visual display

on the TV screen. The computer program also enables the microprocessor to cause the figures of the player's adversaries (the "ghosts" of the "Pac-Man" game or "alien insects" of the "Galaxian" game) to move on the screen in response to the position of the character represented by the player and to the action initiated by the player. For example, the computer program has a routine within it that enables the "ghosts" to chase after Pac-Man; that is, the figures of the ghosts can move across the TV screen in a way that constantly decreases the distance between them and the Pac-Man figure.

There is virtually an infinite number of possible overall visual patterns that can appear on the TV screen in a particular performance or play of a video game, because the player may manipulate the joystick and button in virtually an infinite number of patterns. Indeed, the probability is infinitesimal that the exact same total visual pattern of a video game will ever be repeated in any two actual customer performances of the game, just as no one ever plays the same bridge game twice. Accordingly, every real performance of the "Pac-Man" game ever played by human customers is different—in the sense that the specific sequence of images appearing on the TV screen is never the same twice. The sequence of images is not fixed and predetermined; it necessarily varies each time the game is played, in response to when and how the individual human customer manipulates the joystick and push button as he plays the game.[2] The machine's computer program has a generic formula or algorithm that will generate the response that the computer will make for any moves of the joystick or button that the human player can make, and the microprocessor chip causes the machine to make such a response and

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[2] However, there are a finite number of parts of images that are encoded in the computer program material that is stored as patterns of transistors in the character ROMs. For example, there is only one figure of Pac-Man facing right with his mouth fully open, one of Pac-Man facing right with his mouth half-open, one of Pac-Man with his mouth closed, one of Pac-Man facing left with his mouth open, and

display the interaction as a visual image on the TV screen. In sum, the total visual pattern of the game is never the same twice, and the same total sequence of visual images never occurs twice, although the visual pattern of every game that did or will occur is brought into being by (and may be said to be determined by) the set of inputs to the machine's microprocessor from the human player's motion of the joystick and the machine's computer program. (These facts significantly contribute to the determination of the scope and validity of video game copyrights.)

The decisions below are based only on the respondent's alleged copyrights relating to the visual imagery and sounds of the Pac-Man (Registration No. PA 83-768) and Galaxian (No. PA 59-977) video games—the so-called "audiovisual work" copyrights. Respondent has not sued petitioner under its claims of copyright (such as No. TX 753-817 for Pac-Man) on the computer programs. Midway filed with the Copyright Office videotapes depicting a single performance of each of the two video games, a videotape of one player playing the game on one occasion; Midway also filed computer program material. It is not contended that Artic engaged in or caused to be performed a visual display or sequence of sounds that contains substantially the same sequence of images and sounds for a whole video game as occurs in any videotape that Midway deposited with the Copyright Office. Midway instead asserted, and the courts below agreed with, the claim that the copyright registration based on a videotape of one performance of a video game is effective to confer on Midway a monopoly of all the images, sounds, and visual or auditory patterns that ever did

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so on; there is not an infinite number of individual figures of Pac-Mans.

By way of comparison, there are a finite number (88) of keys on a piano keyboard. There is an indefinitely large number of chords and sequences that can be made with these keys. The court of appeals suggested the analogy of different paints on a palette. See Pet. App. A at 4a.

or ever will appear in all performances of the video game, by all players, in the past or future.

C. The Speed Up Kits

Artic sold so-called "speed up kits" (also known in the trade as "enhancement kits") to video game arcade operators who had bought "Galaxian" video game equipment from Midway. After a video game has been in operation for a time and customers have become somewhat used to it, the revenues earned from the machine fall off. Arcade owners use speed up kits to try to reverse this decline in earnings. When the Artic kit is inserted into one of Midway's "Galaxian" machines, it alters the play or performance of the game by making the same alien figures move faster, by increasing the number of these alien figures that attack the player at a time, and by making the aliens drop a greater number of the same bomb figures on the player's figure; the visual figures, themselves, are not changed even though their number and movements are. Pet. App. B. at 16a.

The Artic kits contain five program ROMs in a printed circuit board that plugs into existing sockets in respondent's main "Galaxian" printed circuit board in place of a similar five-ROM printed circuit board originally supplied by respondent with the machine. See Pet. App. B at 11a-12a, 16a. Artic's five program ROMs embody some of the same computer program material as do Midway's original five program ROMs, and they also contain some different computer program material. Pet. App. B at 17a. The different computer program material causes the changes in performance and visual display described in the preceding paragraph. The five program ROMs do *not* contain electronic patterns for the figures of aliens or other figures; the patterns for these figures are only in the character ROMs that originally came with the machines.

Artic sold its kits for $150 (PX 58-60), which is less than approximately 10% of the cost of a complete video game machine (*supra* note 1). Midway sold complete video game machines, but it did not sell speed up kits. Pet. App. C at 55a.

The courts below adopted Midway's theory that by selling these kits Artic was guilty of contributory copyright infringement:

> [B]y marketing the speed-up kit, defendant has induced others [owners of video game machines and their customers] to prepare derivative works of the plaintiff's copyrighted work by using the speed up kits, and has also induced others to perform distortions of the audio visual images that appear when playing the game.
>
> . . .[T]he sale of the speed up kits enables others to make and perform unauthorized alterations of plaintiff's copyrighted material.

Pet. App. C at 47a, 51a. Because the speed up kit could be used only with "Galaxian" video game equipment and was not useful on other video game machines, the district court ruled that the necessary elements of contributory infringement of the "Galaxian" copyright had been shown. Pet. App. B at 35a.

The court of appeals recognized that "[i]t is not obvious from this language [17 U.S.C. 101] whether a speeded-up video game is a derivative work." But the court concluded that "the owner of the copyright on the game should be entitled to monopolize it" against those customer-licensees who bought speed up kits, because it would be profitable to the copyright owner to do so:

> [L]icensees [video game arcade owners] will take in greater total revenues. Video game copyright owners would undoubtedly like to lay their hands on some of that extra revenue and therefore it cannot be assumed that licensees are implicitly authorized to use speeded-up circuit boards in the machines plaintiff supplies.

Pet. App. A at 7a-8a. Accordingly, the court of appeals affirmed the ruling that petitioner's sale of speed up kits was contributory infringement of respondent's Galaxian copyright and should be enjoined.

D. Midway's Acquisition of Rights to the Video Games and the Agreement for Allocation of Markets

Midway and its employees did not create or author the Galaxian or Pac-Man video games or the computer programs relating to them. Midway secured its rights, if any, from Namco Limited, a Japanese video game equipment manufacturer. A series of agreements then followed among or between Namco, Midway, and also Atari, Inc. (Atari and Midway are the two leading United States manufacturers and distributors of video game equipment.[3]) Midway was allocated exclusive United States rights in Pac-Man and Galaxian in the coin-operated equipment field. (Its competitor Atari was allocated exclusive United States rights in the non-coin-operated or home video game field.) Namco had all non-United States rights. The parties agreed with each other not to compete in the markets assigned to another party.

Artic contended that Midway's use of the copyrights in aid of the conspiracy to allocate markets was a misuse of the copyrights and that Midway had "unclean hands" because of its participation in the scheme. The defense was struck, however, and the court below refused to consider it as a factor militating against grant of injunctive relief to Midway. Among other things, the court said that it is "the general rule that alleged antitrust violations do not form valid defenses to an action for copyright infringement." Pet. App. D at 64a. The court also said that it "could conceive of no public interest" factor militating against grant of the preliminary injunction. Pet. App. B at 37a.

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[3] It is estimated that Midway accounts for 33% of the coin-operated video game machine market, Atari for 23%, and the next two firms for approximately 10% each. *Play Meter*, Nov. 15, 1982, p. 60. See also *Business Week*, Dec. 6, 1982, p. 39 (Bally Midway in 1982 had "50%-plus market share, up from last year's estimated 35%").

REASONS FOR GRANTING THE WRIT

Petitioner's basic submission is that injunctive relief should not have been granted against it, because as a matter of law respondent Midway does not have any valid claim for such equitable relief. First, video game TV screen displays, which Midway seeks to monopolize, are uncopyrightable. Second, for petitioner to supply speed up kits to respondent's customers is not contributory copyright infringement, because the customers' use of the kits is not a direct infringement; rather, it is something the customers have a right and license to do as customers and as owners of the products that respondent sold them. Third, the courts below committed reversible error in refusing even to consider petitioner's "unclean hands" defense to the injunction. Any one of these grounds is sufficient to warrant a reversal and remand. Each of these issues raises an important question of federal law, which only this Court can properly and authoritatively resolve.

I. Video Game Displays Are Not Copyrightable "Audiovisual Works" And Copyright Cannot Extend To Cover Each And Every Video Game Display That Ever Occurred Or Ever Will Occur Whenever The Video Game Was Or Will Be Played. But In Any Event Only This Court, Not The Lower Courts, Should Determine Whether Video Games, A Novel Kind Of Work, Are Copyrightable.

The copyrights in suit are claimed to be on the "audiovisual works" embodied in the "Pac-Man" and "Galaxian" video games, and these alleged works of authorship are identified with the visual displays that are generated when the microprocessor computer chip combines with the signals derived from the player's movements of the joystick with the signals derived from the computer program and the character material stored in the ROMs. It is said in support of copyrightability that the display on the TV screen of the video game machine is akin to a motion picture, and is therefore copyrightable under the Act. See Pet. App. A at 3a; cf. 17 U.S.C. 102(a)(6).

The court of appeals observed, with considerable understatement, that "[i]t is not immediately obvious that

video games fall within" the Act's definition of "audiovisual work." Pet. App. A at 3a. The Act defines audiovisual works as "works that consist of a series of related images." 17 U.S.C. 101. The term "image" is not defined in the Act, but its use in context indicates that it means an individual entire frame of a motion picture or an individual, momentary, entire TV screen display.[4] The question of copyrightability turns on what is a series of related images, and how the images must be related to one another. This Court has never interpreted this aspect of the copyright laws. One meaning of the statutory language, the natural and logical meaning we submit, is that the series of related images must be a predetermined, fixed sequence of images, with a particular, given beginning, middle, and end. The other construction of the statute, adopted below, is that the "related series" can be the character ROM figures in any order—"any set of images displayed as some kind of unit." Pet. App. A at 3a.

The two competing interpretations of the Act may be illustrated by contrasting two concepts of the movie "Casablanca," a known audiovisual work. Under the ordinary concept of "audiovisual work," which corresponds to the first interpretation of the statutory phrase "series of related images," the copyrighted series of screen images should be a series of frames that always show Bogart leaving Paris on the last train

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[4] Thus, in 17 U.S.C. 101, the Act defines displaying a work to mean showing a copy of the work "by means of a film, slide, television image, or . . . in the case of a motion picture or other audiovisual work, to show individual images nonsequentially." Similarly, in 17 U.S.C. 106(5), the Act refers to displaying "the individual images of a motion picture or other audiovisual work."

Thus, the individual character figures are only parts of an image. Each ensemble of figures at any moment comprises the "image" referred to in the Act, so that any momentary screen display of Pac-Man at a particular place in the maze, *and* the maze, *and* the four pursuing ghosts at four particular places in the maze — is an "image," while the figure of Pac-Man facing right with his mouth half-open is not *per se* an "image."

without Bergman, Bergman persuading Sam to play "As Time Goes By," Bergman getting on the plane to Lisbon without Bogart, and Bogart shooting the Nazi officer.[5] No one ever suggested to Congress that it should, and Congress never indicated that it desired to, grant copyrights on a kind of "Casablanca" motion picture in which, depending each time on audience participation, the series of screen images would sometimes show Bergman catching the last train from Paris together with Bogart, sometimes show Bergman trying to persuade Sam to play "Deutschland Uber Alles," sometimes show Bogart getting on the Lisbon plane with Bergman, and sometimes show the Nazi officer shooting Bogart—the plot and display of images always being different, and the copyright covering all possible variations that could ever be made on the "Casablanca" theme. Under the second concept of audiovisual work, a copyright on "The Maltese Falcon," for example, would cover any Sam Spade "private eye" movie ever made thereafter; any play using the idea of a drunken and riotous knight who disturbed his household with late night revelry would infringe "Twelfth Night." Cf. *Warner Bros. Pictures, Inc.* v. *Columbia Broadcasting System, Inc.*, 216 F.2d 945 (9th Cir. 1954), *cert. denied*, 348 U.S. 971 (1955) (copyright on Maltese Falcon does *not* prevent other similar Sam Spade stories); *Nichols* v. *Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930) (L. Hand, J.), *cert. denied*, 282 U.S. 902 (1931) (Twelfth Night).

The court of appeals recognized that the first interpretation of the Act would bar copyright for video game visual displays. The figures and images of a video game appear in a different pattern every time the game is played, since the timing and

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[5] See *Final Rep. of Nat'l Comm'n on New Technological Uses of Copr. Works* ("CONTU Report") at 21-22 (1979): "When a phonorecord or motion picture is used in conjunction with a properly working machine, the same result will occur on the first, the second, and the thousandth running. The chorus will remain silent until the fourth movement of Beethoven's Ninth Symphony, and Bogart will stay in Casablanca forever."

nature of different game players' "moves," or even the same player's moves on different occasions, are at least slightly different—which causes the computer to respond differently and produce a different visual display. Accordingly, the court held that the statutory phrase ought to "be construed more broadly." The court felt that "Congress probably wanted the courts to interpret the definitional provisions of the new Act flexibly, so that it would cover new technologies as they appeared," because this would save Congress from having "periodically to update the Act." Pet. App. A at 3a.

The court of appeals noted that "[t]here is a second difficulty that must be overcome if video games are to be classified as audiovisual works"—the visual display is created by the joint action or authorship of the human player and the inanimate computer. Cf. Art. I, § 8, cl. 8. The court analogized playing a video game to "arranging words in a dictionary into sentences" or "paints on a palette into a painting." It therefore questioned whether or not the creativity in the performance of the game should be attributed to the human being playing it, as its real "author." But it decided that the answer was *no*, because playing a video game "is more like changing channels on a television than it is like writing a novel or painting a picture." The court of appeals felt that the critical fact was that the player's options are limited by the computer program; he cannot create sequences of images not in the machine's repertory (just as a pianist cannot play notes for which there are no keys on the piano). Accordingly, the court held that video games are copyrightable and that infringement of the "Pac-Man" and "Galaxian" copyrights was caused or induced by Artic's conduct.

We submit that the interpretation of the new Act adopted below is wrong, and inconsistent with what everyone understood as a motion picture or other audiovisual work in 1976 when Congress enacted the statutue. Until now, audiovisual works were motion pictures such as the real "Casablanca" (not the hypothetical one that changes each time it is performed) or animated cartoons such as "Bugs Bunny." The identity of the

audiovisual work was known; the images were displayed in a fixed and predetermined sequence, which a particular human being had "authored." No one was given a copyright monopoly on all the images of a kaleidoscope, that were different every time another person (who was not the alleged "author") shook it, or a copyright monopoly on the sounds of a wind chimes. No one was given a copyright on an *idea* or a *plan* for a work, a plan that would be carried out and expressed differently every time a different member of the public interacted with an inanimate machine devised for generating sounds and a visual display on a TV screen. Yet, that is the kind of copyright monopoly that the courts below are giving respondent and other manufacturers of video game equipment. The copyrights they are sustaining grant blanket protection for every possible set of sounds, images, and visual displays that ever were or ever will be generated by use of this computer program or any one similar to it, whenever the computer, the program, and a human video game player interact. This new kind of so-called audiovisual work is completely beyond anything Congress ever imagined or intended to protect when it enacted the new copyright law based on Congress' power to protect writings of human authors.

Moreover, the reasons the court below gave for its construction of the Act cannot withstand scrutiny. The court of appeals' idea that Congress gave the courts a blank check to invent monopoly protection for every new technology whenever the courts felt it desirable to do so (Pet. App. A at 3a) is unsupportable. The analogies drawn to switching TV channels or selecting paints from a palette are defective and provide no sound basis for interpreting the law. Instead of distorting and stretching the Act to embrace video games, the court below should have held them uncopyrightable. At the very least it should have held the copyrights, if any, limited to the particular fixed sequences of images contained in the videotapes of specific performances that respondent filed with the Copyright Office. (Petitioner concededly did not reproduce or cause to be reproduced the particular visual display sequence of the game performance shown in those videotapes.)

We submit that a "clear and certain signal" must come from Congress before the "beachhead of privilege" is expanded as respondent has had it expanded below to this new, multi-billion dollar industry, *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 531 (1972), and that more cautious progress is required when the courts are asked to extend copyright monopoly rights "into areas wholly unforseen by Congress." *Parker* v. *Flook*, 437 U.S. 584, 596 (1978). Our submission may be right or wrong, on the merits. This Court may conclude that video game manufacturers are indeed entitled to the broad monopolies that they claim—that Congress intended to grant such monopolies in order to promote the progress of science and useful arts. The Court may even decide that computers can be authors, within the meaning of Art. I, § 8, cl. 8. But it is evident that all of this presents far too important a question of federal law to be determined by the lower courts. If the beachhead of privilege *is* to be judicially expanded, surely that is for this Court, not the lower courts, to do in the first instance. Certiorari should be granted to permit this Court to make an authoritative interpretation of the 1976 Act as to whether the regular stock in trade of this major new industry shall be subject to copyright monopolies.

II. Petitioner Cannot Be Liable For Contributory Copyright Infringement, Because No Direct Copyright Infringement Occurs When The Lawful Purchaser Of The Copyright Owner's Product Modifies It To Restore Or Improve Its Economic Value.

The district court and court of appeals found petitioner guilty of contributory infringement. Petitioner sold "speed up kits" (also known as "enhancement kits") to video game arcades that had bought "Galaxian" video game machines from respondent. These kits are sets of five computer chips, all of which are program ROMs. When they are inserted into the Galaxian video game machine that respondent sold, the computer program material in the new chips causes changes to occur in the visual display of the Galaxian video game. For example, the kit: increases the number of figures of alien "insects" in the

formations that peel off the main alien horde and attack the player's figure; makes the aliens attack faster; and makes the aliens drop more bombs on the player.

After a time, video game players become accustomed to any new video game, and the number of quarters per week that the product earns for the arcade operator falls off. The $3000 investment in the machine no longer produces as much income as it did. Arcade operators can reverse this decline and improve their earnings by putting $150 speed up or enhancement kits into their machines. As the court of appeals pointed out, by using these kits, "licensees will take in greater revenues." Pet. App. A at 7a. Because Artic sold these kits to customer-licensees of Midway, the court found that Artic had "induced" these licensees to cause modified versions of the Galaxian game to be displayed on the TV screens of the equipment they had purchased from Midway. It was said that Artic committed contributory infringement of the Galaxian copyright by causing the licensees to commit direct infringement of the copyright.

The court of appeals recognized that it is critical to any such findings of contributory infringement that there first be a *direct* infringement. *Aro Mfg. Co.* v. *Convertible Top Co.*, 365 U.S. 336, 341 (1961). The court of appeals also recognized that for it to find that the customer-licensees who placed petitioner's kits into their Galaxian machines were direct infringers of the copyright would "stretch" the language of the Copyright Act. But the court of appeals decided that Congress, if it had in some way been able in 1976 to anticipate the marketing of video games, would have wanted to have the Act "stretched to accommodate speeded-up video games." Pet. App. A at 8a. The court brushed aside the argument that purchasers of respondent's equipment have a license to modify or enhance the equipment. It said that those customer-licensees who use these kits do so to "take in greater total revenues." Yet, the court said, "Video game copyright owners would undoubtedly

like to lay their hands on some of that extra revenue."[6] The court of appeals found this factor decisive and therefore concluded that the customer-licensees were not implicitly authorized to put speed up kits into the machines; since the customer-licensees lacked such authorization, they were direct infringers and their supplier Artic was a contributory infringer.

This case thus raises for copyrights precisely the issue that this Court decided for patents twenty years ago in *Aro Mfg. Co.* v. *Convertible Top Co.*, 365 U.S. 337 (1961), and *Wilbur-Ellis Co.* v. *Kuther*, 377 U.S. 422 (1964). In those cases, the Court held that the legitimate purchaser of a patented product has the unqualified right to repair and modify his property subsequently in order to restore or enhance its economic value to him. The property owner (or the owner's supplier) did not have to pay the monopoly owner a second royalty for the privilege of modifying the product, because the authorized sale of the product had liberated it from the monopoly, or had "exhausted" the monopoly. As the Court noted in *Kuther*, *supra* at 425, the latter has been the law and the right of property owners in their property since at least as early as *Adams* v. *Burke*, 84 U.S. (17 Wall.) 453 (1873). See also *Bobbs-Merrill Co.* v. *Straus*, 210 U.S. 339 (1908) (applying *Adams* doctrine to copyrighted products).[7] The judgment below therefore squarely conflicts with the rule of decision followed in this

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[6] In so ruling, the court of appeals ignored the fact that Midway did not make and sell speed up kits. Pet. App. C at 55a. The only way Midway could "lay their hands on" the revenue of the arcade operators was to compel them to junk their used Galaxian machines and buy new Pac-Man machines, or other Midway machines, from Midway. Denying owners the right to use $150 speed up kits, of course, does compel them to junk their used $3000 machines and buy new $3000 machines, or at least make them do so sooner.

[7] Since *Adams*, it has been the consistent and unvarying rule in this Court that the first authorized sale of patented or copyrighted property liberates it from the monopoly of the seller, who then can no

Court. That rule is that a lawful BFP owner of a machine has the right to exercise thrift and Yankee ingenuity in repairing, reconditioning, and preserving the economic life of his property, without having to grovel before or account to the patent or copyright owner who originally sold the machine to him. These video game machine owners had a right to put speed up kits into their own machines, which they had purchased outright from respondent, and petitioner had a right to sell them the kits that they wanted to use with their property. *Aro*, *supra*.

Although this Court has not had occasion to apply the rule followed in the *Aro* and *Kuther* cases to the restoration or modification of the economic value of copyrighted products, lower federal courts have. Generally, the federal courts have held that the first authorized sale of a copyrighted product exhausts the copyright monopoly, so that the copyright owner cannot thereafter exercise any remote control over what purchasers do with the copyrighted product. See, e.g., *American Int'l Pictures, Inc.* v. *Foreman*, 576 F.2d 661, 664 (5th Cir. 1978); *Platt & Munk Co.* v. *Republic Graphics, Inc.*, 316 F.2d 847, 852-54 (2d Cir. 1963) (Friendly, J.); *Independent News Co.* v. *Williams*, 293 F.2d 510 (3d Cir. 1961). Moreover, federal copyright decisions have recognized as permissible a wide variety of repairs, modifications, and enhancements of books, magazines, and pictures, even for resale to others than the original customer (which goes beyond what occurred here). See, e.g., *S. M. Paula Co.* v. *Logan*, 355 F. Supp. 189 (S.D. Tex. 1973) (transforming greeting card pictures into ceramic plaques); *Fawcett Publications, Inc.* v. *Elliott Publishing Co.*, 46 F. Supp. 717 (S.D.N.Y. 1942) (rebinding used comic books of various brands and combining them in single volumes). The settled doctrine of exhaustion of monopoly rights by autho-

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longer control the use or disposition of the property. See, e.g., *United States* v. *Univis Lens Co.*, 316 U.S. 241, 249-50, 252 (1942); *United States* v. *General Electric Co.*, 272 U.S. 476, 489 (1926); *Boston Store Co.* v. *American Graphophone Co.*, 246 U.S. 8, 25 (1918); *Bauer & Cie.* v. *O'Donnell*, 229 U.S. 1, 17 (1913).

rized sale of the product subject to the monopoly, and the property owner's right of preservation and improvement of his property, therefore should be fully dispositive of the second question presented. The judgment below is in conflict with this entire line of authority.

In the event that in some way the foregoing considerations are not dispositive, the Court may wish to take into account a further consideration that should dispose of the second question presented, purely as a matter of law under the 1980 computer software Copyright Act amendment. The ROM computer chips in video game machines contain computer program material. In the 1980 amendment to the Copyright Act, Congress expressly authorized the lawful owner of a copy of a computer program "to make or authorize the making of another copy or adaptation of that computer program," if the adaptation is an essential step in utilizing the computer program in a machine. 17 U.S.C. 117. One of the stated purposes of the 1980 amendment was to permit owners of copies of computer programs to make enhancements of the original program to provide features not present in the original. Accordingly, it would not have been direct infringement for one of the owners of one of the "Galaxian" video games (i.e., one of the arcade owners to whom Artic sold a speed up or enhancement kit) to make an adaptation of the computer program material in the program ROM chips that respondent originally sold to him as part of and for use in the machine. The speeding up and enhancement of the video game computer program material originally contained in the purchased machine is the lawful right of the owner of the machine. Section 117 therefore furnishes an alternative and purely legal ground for reversal of the judgment below, since section 117 removes the stigma of copyright infringement from the conduct that the lower court held to be the direct infringement requisite to this charge of contributory infringement.[8] Cf. *Blonder-Tongue Laborator-*

[8] To be sure, Midway has registered separate claims of copyright on the computer program and on the visual imagery and display that it generates. Midway may therefore argue: "Section 117 would not

ies, Inc. v. *University of Illinois Foundation*, 402 U.S. 313, 320 n.6 (1971).

III. The Courts Below Committed Reversible Error By Refusing To Consider Petitioner's "Unclean Hands" Defense As A Factor In Deciding Whether To Grant Injunctive Relief Against Petitioner.

Petitioner contended below that Midway's copyrights were unenforceable because of Midway's "unclean hands" and misuse of copyrights. Petitioner alleged the following conspiracy, which in the posture of this case must be assumed to be true: Midway agreed with its competitor Namco that Midway shall sell "Galaxian," "Pac-Man" and other video game equipment in the United States and not in Japan; Namco agreed that it would not sell such equipment in the United States.[9] Cf. *Timken Roller Bearing Co.* v. *United States*, 341 U.S. 593 (1951).

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affect the outcome of this case, which concerns infringement of audiovisual works, not computer programs" (Midway C.A. 7 Br. at 26). But the function of the computer program is to cause the performance and display of the Galaxian video game; indeed, the only value of the computer program is in its use to perform the Galaxian video game.

Accordingly, that Midway has separate copyright registrations on the Galaxian computer program and on the Galaxian audiovisual work generated by the program should not negate the value of section 117 to the arcade owner who bought from Midway and lawfully owns a copy of the computer program. The owner's right under section 117 to adapt and enhance the computer program must carry with it a correlative right to cause adaptation and modification of the visual display generated by the computer program. Without the latter, the former would be an empty and useless right.

[9] Further, the coin-operated and non-coin-operated (home video) fields for this equipment within the United States were divided between the leading two video game equipment competitors, Midway and Atari. Thus, Midway sells arcade type "Pac-Man" machines in the United States; Atari sells home video "Pac-Man" cartridges; Namco can sell both products in Japan; none of the companies sells the products in the market allocated to one of the others.

Midway's enforcement of these copyrights against Artic is an act in furtherance and pursuance of a conspiracy to allocate markets. Under the challenged agreement, Midway was assigned United States copyrights to enable it to monopolize the coin-operated equipment market for more than $200 million worth of machines. Respondent Midway is enforcing those copyrights against petitioner to wall off from competition the market allocated to Midway, to keep petitioner from "trespassing" on the territory assigned to Midway under the conspiracy. In such circumstances, the copyright infringement action is an integral element of the unlawful conspiracy, just as the patent enforcement action was held an integral part of the antitrust violation in *United States* v. *Singer Mfg. Co.*, 374 U.S. 174 (1963).[10] By the same token, for the federal courts to aid Midway by lending their injunctive power to the accomplishment of Midway's conspiracy and monopolistic purpose, in effect makes the federal courts a tool of these conspirators.

The refusal below to consider petitioner's "unclean hands" defense as a factor in deciding whether to grant respondent the equitable relief it secured here was a clear mistake of law. (We believe that it was clearly error, also, to *strike* the affirmative defense. But that is not the point we make here. The order to strike was an interlocutory order, and it is pertinent here only because it illuminates the lower court's reasoning on the question of whether to grant the preliminary injunction.) Rather than refusing to consider the unclean hands defense, the court should have considered it, first, as a public interest factor that must at least be weighed in deciding whether to grant an

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[10] Whether the illegality of the alleged conspiracy is to be tested by the "rule of reason" or is to be regarded a division of markets that is illegal per se need not detain us here. The conduct is surely *not* lawful per se, and the court below did not so rule. It simply refused to consider the matter, and struck Artic's allegations. Pet. App. D at 62a. (We note that Midway's estimated share of the coin-operated video game machine market is between 33% and 50%-plus, and Atari's is 23%. Note 3 *supra*.)

injunction; and, second, as a factor in determining the likelihood of success on the merits, another factor that must be weighed in determining whether to grant a preliminary injunction.

It has long been the law that the federal courts will not lend their assistance to further an unlawful scheme. This Court has repeatedly declared that the "unclean hands" doctrine is an important part of federal equity law. E.g., *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, 664-69 (1944); *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U.S. 488, 492-94 (1941); *Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U.S. 502 (1917); cf. *Brulotte* v. *Thys Co.*, 379 U.S. 29 (1964).

The unclean hands doctrine is of special importance in the field of intellectual property—patent and copyright monopolies granted by the government in the public interest. Since at least as early as *Pennock* v. *Dialogue*, 2 Pet. 1 (1827), it has been the law in this Court that the public interest is paramount in the administration of these state-granted monopolies. *Mercoid Corp.*, *supra*, 320 U.S. at 665. The unclean hands and misuse doctrines are primarily intended to protect the public from overreaching on the part of beneficiaries of these grants, and to prevent the federal courts from being used as instruments of oppression or in furtherance of unlawful schemes; secondarily, and because it helps to accomplish the primary purpose, the doctrines benefit accused infringers. Thus, the unclean hands and misuse doctrines apply whether or not the infringer is "a competitor with the patentee." *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U.S. 488, 493 (1942). In the same opinion, the Court also held that it is immaterial even that the defendant "is not injured by the alleged antitrust violation." The point, this Court said, is to protect the public interest:

> It is the adverse effect upon the public interest of a successful infringement suit in conjunction with the patentee's course of conduct which disqualifies him to maintain the suit, regardless of whether the particular defendant has suffered from the misuse of the patent.

Id. at 494. Misuse is not another species of antitrust claim for relief; it is a nonstatutory doctrine of federal equity law, created by this Court and based on such considerations as fairness, overreaching, and abuse of a federal monopoly grant. See generally *Mercoid* and *Motion Picture Patents*, *supra*. Whatever limitations, if any, may be appropriate in curtailing antitrust plaintiffs have no bearing on the misuse defense.

The reasons given below for refusing to consider the defense are all unsound. The most egregious was that "the court adheres to the general rule that alleged antitrust violations do not form valid defenses to an action for copyright infringement." Pet. App. D at 64a. This supposed "general rule" flies in the face of this Court's decision in *Broadcast Music, Inc.* v. *Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979). In remanding for a determination whether the challenged copyright licenses were unreasonably restrictive, the Court clearly ruled that if copyrights were indeed used as part of or to further an antitrust violation, the copyright owner would be guilty of misuse. See *id.* at 6 and n.9, 24; see also *Broadcast Music, Inc.* v. *Moor-Law, Inc.*, 484 F. Supp. 357 (D. Del. 1980) (defendant entitled to go to trial on same defense of copyright misuse based on same alleged antitrust violation). The decision below therefore conflicts with both the entire line of patent misuse decisions of this Court and also the Court's most recent pronouncement as to copyright misuse. Unless corrected by this Court, the declaration of a supposed general rule against considering antitrust violations as a form of copyright misuse will give judicial encouragement to a vast similar abuse of monopoly power by copyright proprietors.

This is a case in which the federal court granted a preliminary injunction against petitioner and in favor of respondent, where the purpose of the injunction was to help enforce respondent's scheme to divide and allocate markets. The court refused to consider this fact, and struck the allegation. In granting the injunction the district court said: "The court can conceive of no public interest that is furthered by allowing defendant to continue to distribute and sell its infringing material."

Pet. App. B at 37a. When the court of appeals affirmed the district court's grant of preliminary injunction it did so because it found no error below. Cf. Pet. App. A at 9a. The court of appeals was obliged, we believe, to make its own analysis of the record before it and the opinions below, in order to determine whether it was in the public interest to grant a preliminary injunction. The court of appeals had an obligation to correct plain error; to prevent manifest injustice; and, *sua sponte* if needs be, to protect the paramount and dominant public interest reflected in, among other things, the misuse and unclean hands doctrines. See *Piper* v. *Chris-Craft Industries, Inc.*, 430 U.S. 1, 47 n.34 (1977). Failure to do so was plain error by the court of appeals, which warrants supervisory correction here. Therefore—although we recognize that there may be some question whether, after the district court struck the misuse and unclean hands defense, the issue was pressed with sufficient vigor below as to preserve the issue in a case, unlike the instant case, *not* involving the paramount interest of the public in the patent or copyright systems—we believe that the district court's order striking the matter and refusing to consider it further (see Pet. App. D at 64a) in the proceeding is sufficient to have brought the matter to the attention of the court of appeals and to preserve it for this Court. See, e.g., *Blonder-Tongue, supra*. See also *Piper, supra*.

CONCLUSION

The court below misinterpreted an important new federal law as it applies to an important new multi-billion dollar industry. Its decision conflicts with those of this Court and other federal courts as to the rights of customer-owners of patented or copyrighted property. The refusal even to consider petition-

er's misuse defense is based on an erroneous, imagined "general rule" contrary to the rule of law laid down in this Court. For the foregoing reasons, a writ of certiorari should issue.

Respectfully submitted.

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APPENDIX

APPENDIX A

IN THE
UNITED STATES COURT OF APPEALS
FOR THE SEVENTH CIRCUIT

No. 82-1607

MIDWAY MFG. CO., an Illinois corporation,
Plaintiff-Appellee.

v.

ARTIC INTERNATIONAL, INC., a New Jersey corporation,
Defendant-Appellant.

Appeal From The United States District Court
For The Northern District Of Illinois, Eastern Division
No. 80-C-5863 — Bernard M. Decker, *Judge*.

ARGUED NOVEMBER 29, 1982 — DECIDED APRIL 11, 1983

Before CUMMINGS, *Chief Judge*, POSNER, *Circuit Judge*, and SWYGERT, *Senior Circuit Judge*.

CUMMINGS, *Chief Judge*. This appeal involves questions regarding the scope of protection video games enjoy under the 1976 Copyright Act, 90 Stat. 2541, 17 U.S.C. § 101 *et seq.*

Plaintiff manufactures video game machines. Inside these machines are printed circuit boards capable of causing images to appear on a television picture screen and sounds to emanate from a speaker when an electric current is passed through them. On the outside of each machine are a picture screen, sound speaker, and a lever or button that allows a person using the machine to alter the images appearing on the machine's picture screen and the sounds emanating from its speaker. Each machine can produce a large number of related images and sounds. These sounds and images are stored on the

machine's circuit boards—how the circuits are arranged and connected determines the set of sounds and images the machine is capable of making. When a person touches the control lever or button on the outside of the machine he sends a signal to the circuit boards inside the machine which causes them to retrieve and display one of the sounds and images stored in then. Playing a video game involves manipulating the controls on the machine so that some of the images stored in the machine's circuitry appear on its picture screen and some of its sounds emanate from its speaker.

Defendant sells printed circuit boards for use inside video game machines. One of the circuit boards defendant sells speeds up the rate of play—how fast the sounds and images change—of "Galaxian," one of the plaintiff's video games, when inserted in place of one of the "Galaxian" machines's circuit boards. Another of defendant's circuit boards stores a set of images and sounds almost identical to that stored in the circuit boards of plaintiff's "Pac-Man" video game machine[1] so that the video game people play on machines containing defendants circuit board looks and sounds virtually the same as plaintiff's "Pac-Man" game.

Plaintiff sued defendant alleging that defendant's sale of these two circuit boards infringes its copyrights in its "Galaxian" and "Pac-Man" video games. In a memorandum opinion and order reported at 547 F. Supp. 999 (N.D. Ill. 1982), the district court granted plaintiff's motion for a preliminary injunction and denied defendant's motion for summary judgment. The district court's order enjoins defendant from manufacturing or distributing circuit boards that can be used to play video games substantially similar to those protected by plaintiff's copyrights. Defendant appeals from that order on the ground that plaintiff has not shown a likelihood of succeeding

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[1] We described the "Pac-Man" video game in some detail in *Atari, Inc.* v. *North American Philips Consumer Electronics Corp.*, 672 F.2d 607, 610, 611 (1982).

on the merits of its claim of copyright infringement. We affirm for the reasons that follow.

Plaintiff claims that its "Pac-Man" and "Galaxian" video games are "audiovisual works" protected under the 1976 Copyright Act. Section 101 of that Act defines audiovisual works as

> works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied. 17 U.S.C. § 101.

It is not immediately obvious that video games fall within this definition. The phrase "series of related images" might be construed to refer only to a set of images displayed in a fixed sequence. Construed that way, video games do not qualify as audiovisual works. Each time a video game is played, a different sequence of images appears on the screen of the video game machine—assuming the game is not played exactly the same way each time. But the phrase might also be construed more broadly to refer to any set of images displayed as some kind of unit. That is how we contrued it in *WGN Continental Broadcasting Co.* v. *United Video, Inc.*, 693 F.2d 622 (7th Cir. 1982), where we held that a news program and a thematically related textual display ("teletext") transmitted on the same television signal but broadcast on different television channels constituted a single audiovisual work. We see no reason to construe it more narrowly here. As we noted there, the legislative history of the Copyright Act of 1976 suggests that "Congress probably wanted the courts to interpret the definitional provisions of the new act flexibly, so that it would cover new technologies as they appeared, rather than to interpret those provisions narrowly and so force Congress periodically to update the act." 693 F.2d at 627.

There is a second difficulty that must be overcome if video games are to be classified as audiovisual works. Strictly speaking, the particular sequence of images that appears on the screen of a video game machine when the game is played is not

the same work as the set of images stored in the machine's circuit boards. The person playing the game can vary the order in which the stored images appear on the screen by moving the machine's control lever. That makes playing a video game a little like arranging words in a dictionary into sentences or paints on a palette into a painting. The question is whether the creative effort in playing a video game is enough like writing or painting to make each performance of a video game the work of the player and not the game's inventor.

We think it is not. Television viewers may vary the order of images transmitted on the same signal but broadcast on different channels by pressing a button that changes the channel on their television. In the *WGN* case, we held that the creative effort required to do that did not make the sequence of images appearing on a viewer's television screen the work of the viewer and not of the television station that transmitted the images. Playing a video game is more like changing channels on a television than it is like writing a novel or painting a picture. The player of a video game does not have control over the sequence of images that appears on the video game screen. He cannot create any sequence he wants out of the images stored on the game's circuit boards. The most he can do is choose one of the limited number of sequences the game allows him to choose. He is unlike a writer or a painter because the video game in effect writes the sentences and paints the painting for him; he merely chooses one of the sentences stored in its memory, one of the paintings stored in its collection.

Defendant suggests another reason why plaintiff's video games are not copyrightable—because the printed circuit boards in which the games are fixed are patentable. We reject this argument for the same reason District Judge Decker rejected it. See 547 F. Supp. at 1008-1009. Plaintiff claims copyrights in audiovisual works—the distinctive set of images and sounds stored in its circuit boards. It does not claim copyrights in the design of those circuit boards, so it matters not that those designs may be patentable. Recording images and sounds in circuit boards does not destroy their copyrightability any more

than does recording them on rolls of celluloid film. Defendant cites *Apple Computer, Inc.* v. *Franklin Computer Corp.*, 545 F. Supp. 812 (E.D. Pa. 1982), and *The Magnavox Co.* v. *Mattell, Inc.*, 216 U.S.P.Q. 28 (N.D. Ill. 1982) in support of its argument, but those cases are easily distinguished. Both dealt with copyrights in computer programs, not with copyrights in audiovisual works fixed in computer programs. We thus conclude that video games are copyrightable as audiovisual works under the 1976 Copyright Act and we note that every other federal court (including our own) that has confronted this issue has reached the same conclusion. *Williams Electronics, Inc.* v. *Artic International, Inc.*, 685 F.2d 870 (3rd Cir. 1982); *Atari, Inc.* v. *North American Philips Consumer Electronics, Corp.*, 672 F.2d 607, 617 (7th Cir. 1982); *Stern Electronics, Inc.* v. *Kaufman*, 669 F.2d 852 (2nd Cir. 1982); *Midway Manufacturing Co.* v. *Dirkschneider*, 543 F. Supp. 466 (D. Neb. 1981). *Cf. WGN Continental Broadcasting Co.* v. *United Video, Inc.*, 693 F.2d 622, 625-626 (7th Cir. 1982).

Defendant next argues that plaintiff's copyrights are invalid because the 1976 Copyright Act does not apply to plaintiff's video games. Section 117 of the 1976 Copyright Act was amended in 1980 to define the exclusive rights of owners of copyrights in computer programs. As originally enacted, Section 117 provided that the 1909 Copyright Act and common law were to govern the rights of a copyright owner "with respect to the use of the [copyrighted] work in conjunction with" computers. Defendant argues that the 1980 amendment does not apply to copyrights, like those of plaintiff, in existence before the amendment took effect and that the original Section 117 requires that we look to the 1909 Act and common law to determine whether the circuit boards defendant manufactures are copies of plaintiff's audiovisual works.

We disagree. Even if the 1980 amendment applies only to copyrights issued after its effective date—an issue we do not decide—the district court properly applied the 1976 Act. The language and legislative history of the 1980 amendment are convincing that original Section 117 was intended only to leave

unaltered the existing law governing the exclusive rights of owners of copyrights in computer programs. See H. Rep. No. 96-1307, 96th Cong., 2nd Sess. 27 (1980) (Part I) (Judiciary Committee), reprinted in 1980 U.S. Code Cong. & Ad. News 6486; *id.* at 19 (Part II) (Committee on Government Operations), reprinted in 1980 U.S. Code Cong. & Ad. News 6509; *Tandy Corp.* v. *Personal Micro Computers, Inc.*, 524 F. Supp. 171, 174-175 (N.D. Cal. 1981). It was not intended to permit pirating of audiovisual works stored in computers.

Defendant also argues that even if plaintiff's video games are copyrightable, plaintiff's asserted copyrights are invalid because the works they protect were originally published without the notice of copyright required by Section 401 of the 1976 Act. Plaintiff purchased the copyrights it asserts in this suit in 1979 and early 1980 from a Japanese company that invented the video game machines plaintiff now markets. Defendant claims that the Japanese company published in Japan without notice of copyright the audiovisual works stored in these machines before it assigned its copyrights to plaintiff. Even if that is so, however, the copyrights plaintiff purchased from the Japanese company are valid. Plaintiff registered its works in the United States in May and November 1980 (Supp. App. 102, 110)—within five years of the date they were originally published in Japan. Section 405(a)(2) affords a copyright owner five years within which to remedy the omission of a copyright notice from published copies of a work. Defendant does not allege that plaintiff has omitted to put a notice of copyright on any of the machines plaintiff has distributed in the United States or that its alleged infringement of plaintiff's copyrights was in reliance upon the omission of such notice from these copies originally published in Japan.

The final argument of defendant's that we address is that selling plantiff's licensees circuit boards that speed up the rate of play of plaintiff's video games is not an infrinement of plaintiff's copyrights. Speeding up the rate of play of a video game is a little like playing at 45 or 78 revolutions per minute ("RPM's") a phonograph record recorded at 33 RPM's. If a discotheque

licensee did that, it would probably not be an infringement of the record company's copyright in the record. One might argue by analogy that it is not a copyright infringement for video game licensees to speed up the rate of play of video games, and that it is not a contributory infringement for the defendant to sell licensees circuit boards that enable them to do that.

There is this critical difference between playing records at a faster than recorded speed and playing video games at a faster than manufactured rate: there is an enormous demand for speeded-up video games but there is little if any demand for speeded-up records. Not many people want to hear 33 RPM records played at 45 and 78 RPM's so that record licensors would not care if their licensees play them at that speed. But there is a big demand for speeded-up video games. Speeding up a video game's action makes the game more challenging and exciting and increases the licensee's revenue per game. Speeded-up games end sooner than normal games and consequently if players are willing to pay an additional price-per-minute in exchange for the challenge and excitement of a faster game, licensees will take in greater total revenues. Video game copyright owners would undoubtedly like to lay their hands on some of that extra revenue and therefore it cannot be assumed that licensees are implicitly authorized to use speeded-up circuit boards in the machines plaintiff supplies.

Among a copyright owner's exclusive rights is the right "to prepare derivative works based upon the copyrighted work." 17 U.S.C. § 106(2). If, as we hold, the speeded-up "Galaxian" game that a licensee creates with a circuit board supplied by the defendant is a derivative work based upon "Galaxian," a licensee who lacks the plaintiff's authorization to create a derivative work is a direct infringer and the defenant is a contributory infringer through its sale of the speeded-up circuit board. See, *e.g.*, *Gershwin Publishing Corp.* v. *Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971); *Universal City Studios, Inc.* v. *Sony Corp. of America*, 659 F.2d 963, 975 (9th Cir. 1981), certiorari granted, 102 S. Ct. 2926 (1982).

Section 101 of the 1976 Copyright Act defines a derivative work as "a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgement, condensation, or any other form in which a work may be recast, transformed, or adapted." It is not obvious from this language whether a speeded-up video game is a derivative work. A speeded-up phonograph record probably is not. Cf. *Shapiro, Bernstein & Co.* v. *Jerry Vogel Music Co.*, 73 F. Supp. 165, 167 (S.D.N.Y. 1947) ("The change in time of the added chorus, and the slight variation in the base of the accompaniment, there being no change in the tune or lyrics, would not be 'new work' "); 1 Nimmer on Copyright § 3.03 (1982). But that is because the additional value to the copyright owner of having the right to market separately the speeded-up version of the recorded performance is too trivial to warrant legal protection for that right. A speeded-up video game is a substantially different product from the original game. As noted, it is more exciting to play and it requires some creative effort to produce. For that reason, the owner of the copyright on the game should be entitled to monopolize it on the same theory that he is entitled to monopolize the derivative works specifically listed in Section 101. The current rage for video games was not anticipated in 1976, and like any new technology the video game does not fit with complete ease the definition of derivative work in Section 101 of the 1976 Act. But the amount by which the language of Section 101 must be stretched to accommodate speeded-up video games is, we believe, within the limits within which Congress wanted the new Act to operate. Cf. *WGN Continental Broadcasting Co.*, *supra*, 693 F.2d at 627; *Williams Electronics, Inc.*, *supra*, 685 F.2d at 873-874; *Atari*, *supra*, 672 F.2d at 614-620.

Defendant raises other arguments on appeal, all of which we reject for the reasons set forth in District Judge Decker's exhaustive opinion. See 547 F. Supp. at 1005-1012.

AFFIRMED.

A true Copy:
Teste:

Clerk of the United States Court of Appeals for the Seventh Circuit

APPENDIX B

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

NO. 80 C 5863
Decided March 10, 1982

MIDWAY MFG. CO.,

Plaintiff,

v.

ARTIC INTERNATIONAL, INC.,

Defendant.

MEMORANDUM OPINION AND ORDER

Plaintiff, Midway Manufacturing, Inc. ("Midway"), brought this action against defendant, Artic International, Inc. ("Artic"), raising claims based on copyright infringement, trademark infringement, unfair competition at common law, violation of Section 43(a) of the Lanham Act of 1946, 15 U.S.C. § 1125(a), violation of the Illinois Deceptive Trade Practices Act, Ill.Rev.Stat. ch. 121-1/2, § 312, and misappropriation at common law. Pending are plaintiff's motion for preliminary injunction and defendant's motion for summary judgment on copyright issues. On September 28 and 29, 1981, the court held a hearing and took testimony concerning Midway's motion for preliminary injunction. All post-hearing briefs requested by the parties have now been filed, and, after consideration of them and the transcript of the hearing, the court hereby enters the following opinion and order.

Facts

The bulk of Midway's business consists of manufacturing and selling video games. Two of those games are the subjects of this lawsuit, Galaxian and Pac-Man. Allegedly, Artic is selling electronic devices that are intended to simulate Midway's

Galaxian and Pac-Man games as well as devices that are designed to be inserted into Midway's Galaxian game to speed up and otherwise alter the play of the game (hereinafter "speed-up kits"). Those devices form the basis of this suit.

Both of Midway's games consist of an upright cabinet equipped with controls manipulated by the player while playing the game. The cabinet contains electronic circuitry in the form of a printed circuit board, which is electrically connected to a television picture tube. The tube serves as a screen on which the visual images of the game are displayed. Before the player begins a game by inserting a coin, Midway's Galaxian and Pac-Man games operate in an "attract" mode, which is stored in the electronic components of the game. The attract mode is fairly short and repeats itself constantly until the game is played. Its purpose is to summarize the game for the prospective player and to encourage him to play the game. When a coin is deposited and the start button depressed, the games shift into the "play" mode. In that mode, some of the symbols of the game appear to respond to the operation of the controls by the player.

In general, the video games manufactured by Midway and others, including Galaxian and Pac-Man, contain printed circuit boards "loaded" with the electronic components, which cause the images of the game to be seen on the television screen and which generate the sounds the game makes while it is being played. Those components include a microprocessor, which is a small computer processing unit, and computer chips called ROMs. The term ROM stands for "read only memory." It is a device which contains the instructions for a computer program in a permanently stored manner.

A printed circuit board used in Midway's Galaxian was shown to the court at the hearing. The board is two-tiered, consisting of a relatively large "mother board" which served as the base, and a smaller "piggyback memory board" mounted on the top of the mother board. The mother board contained a microprocessor and two "character ROMs," in which the com-

puter programs necessary to create the shapes seen on the screen are stored. The Galaxian piggyback board is made up of five ROMs on its top side and two sets of twenty-four pins descending out from its bottom. The pins fit into sockets on the mother board and connect the ROMs on the piggyback board to the microprocessor on the mother board. The ROMs on the piggyback board (hereinafter "program ROMs") contain permanently imprinted computer programs which direct the microprocessor to cause the images created by the character ROMs to appear in certain locations on the television screen.

When the Galaxian game is in the attract mode, the repeating sequence of images summarizing the game for the player is generated by instructions from the program ROMs. After a coin is inserted and the game goes into the play mode, the images generated by the character ROMs move on the screen in a finite but enormous number of sequences. The sequences are determined by the program ROMs. In other words, when a player moves the controls on the cabinet, an electric signal is sent to the microprocessor, which scans the program ROMs for the predetermined sequence in which the images are to move on the screen. If a player were to move the controls of either a Pac-Man or Galaxian video game in exactly the same way in two different plays of the game, the images on the screen would all move in exactly the same way.

Midway's Pac-Man video game is made up of essentially identical electronic equipment. The principles of operation for the Pac-Man game are the same as those discussed above for the Galaxian game. Of course, the programs contained in the ROMs are considerably different.

The court observed both the Galaxian and Pac-Man games at the hearing. The elements of the Galaxian game appear on a background star pattern consisting of twinkling colored lights that roll from the top of the screen to the bottom. The game involves a missile-firing ship operated by the player, plus a formation of enemy alien ships. The player's ship moves horizontally along the bottom of the screen, in response to the

manipulation of the controls by the player. The aliens are arranged in a convoy of five horizontal rows at the top of the screen. There are four denominations or ranks of aliens, with the highest ranking farthest from the player's ship. Each rank has a distinguishing color. The highest ranking alien is shaped like a rocket ship, but the other ranks are birdlike with flapping wings. During play, individual aliens unpredictably invert and swoop down to bomb the player's ship. Sometimes the alien attack involves miniformations of up to three aliens, including one of the highest ranking alien ships plus one or two alien escort ships. The object of the game is to destroy as many of the alien ships as possible while avoiding the destruction of your missile ship by the alien bombers. Whenever a ship is destroyed, a bright explosion appears on the screen with appropriate sound effects. The player's score is measured by the number and rank of aliens destroyed.

The Pac-Man game centers on a maze which covers the entire screen. Using the controls, the player guides the Pac-Man character through the maze, scoring points by "munching up" dots in its path. Four ghost monsters, named Inky, Blinky, Pinky, and Clyde, chase after the Pac-Man, attempting to capture and destroy him. The Pac-Man can counterattack by eating one of four large power capsules in the maze. For a short time after eating the capsule, the Pac-Man can devour the monsters for an additional score. After all the dots in the maze are consumed, the screen is cleared, and the game continues for another round. Each round features a special fruit target in the maze, which if eaten earns bonus points.

Both the games in this suit were created by Namco Limited, a Japanese company. Galaxian was created in 1979, and was first published in Japan by Namco on September 15, 1979. Pac-Man was created in 1980 and was first published in Japan under the name "Puckman" on May 27, 1980. Midway became aware of the two games and concluded that both could be profitably marketed in the United States. On November 13, 1979, Midway and Namco entered into a know-how license agreement in which Namco granted Midway an exclusive

license to make and sell the Galaxian game in the United States. On February 2, 1980, Namco assigned to Midway, effective as of the date of the license agreement, "the entire right, title and interest in common law and statutory copyright" in the Galaxian game. The Galaxian agreements have been amended a number of times, but they still remain in effect. As of August 16, 1980, Namco assigned the U.S. copyright rights of the "Pac-Man or Puckman" game to Midway. On November 4, 1980, Midway and Namco entered into a formal know-how license agreement in which Midway received the exclusive rights to market the Pac-Man game in the United States under that name. The Pac-Man agreements are likewise still in effect. Midway has made substantial royalty payments to Namco under both agreements.

Both the Pac-Man and Galaxian video games have been extremely successful products for Midway. Since February 1980, Midway has sold in excess of 40,000 Galaxian games, and since October 1980, over 80,000 Pac-Man games. Prior to 1978, the average production run on a video game was from 1500 to 2000 units.

Recognizing the value of these two games, Midway sought to register its copyright in the audiovisual portion of the games. Midway initially attempted to register the copyright in the Galaxian game in early March 1980. At that time, a Midway attorney met with examiners in the Copyright Office visual arts and performing arts groups to determine what would be the proper form of deposit to register the visual images of the game. After some discussion, the performing arts division examiner agreed that a performing arts application should be filed and that an acceptable deposit would consist of a video tape of a performance of the game and a written "Synopsis of Deposit."

On March 6, 1980, Midway's attorney filed a performing arts application to register the Galaxian game and deposited a video tape, a brochure for the game, and other materials including a written "Synopsis of Deposit." The video tape was recorded at

Midway's plant in Franklin Park, Illinois. It presents a performance of the play mode of the Galaxian game, and there is a closeup of the game screen to show the copyright notices. At the end of the tape is a view of the entire game showing the full cabinet bearing Midway's name.

The Copyright Office granted the application and issued Certificate of Copyright Registration No. PA 59-977, effective as of March 6, 1980. The certificate states that the work for which the copyright is registered is entitled "Galaxian" or "Midway's Galaxian," that the work is an audiovisual work, that Namco is the author of the work, that the work was created in 1979, and that it was first published in Japan on September 15, 1979.

Midway also obtained a Certificate of Copyright Registration No. PA 68-323 specifically for the Galaxian attract mode which was not included in the videotape deposit for PA 59-977, and Certificate of Copyright Registration PA 83-768 for the entirety of the Pac-Man game. For each certificate, Midway submitted a video tape and a written synopsis of the deposit with the application.

In a July 14, 1981, letter, Ms. Marybeth Peters, Chief of the Examining Division of the Copyright Office, confirmed that, on an ongoing basis, the deposit requirements for copyright protection of video games would consist of a video tape of the attract and play modes of the games, a synopsis of the work, and at least one piece of identifying material showing the position of the copyright notice. The rationale for allowing such a deposit was given as follows:

> "The Copyright Office certainly does not want the actual video games deposited for registration. Unfortunately, under the present regulations, there is no specific provision for the deposit of audiovisual works embodied in video games. I am, therefore, granting your request for special relief on an on-going basis."

Every Galaxian and Pac-Man game sold by Midway contains a number of copyright notices. One copyright notice appears on

the glass cover over the video screen of the Galaxian game and is in the form a clear decal. Also, the notice appears on the Galaxian printed circuit board. In the Pac-Man game, one copyright notice is displayed electronically on the screen immediately after a coin is deposited, and a notice is attached to the Pac-Man circuit board and to each of its ROMs.

The evidence presented at the hearing showed that defendant Artic sells two devices which Midway contends violate its rights in the Galaxian and Pac-Man games. The first of those items is a speed-up kit, which, when attached to the Galaxian game, modifies the way the images move on the screen. Essentially, the effect of the speed-up kit is to cause the aliens to move faster and to increase to six the number of aliens that attack the player's ship in formation. In addition, the aliens in the sped-up version drop more bombs on the player's ship. The obvious result of attaching the speed-up kit to a Galaxian game is to make the game more difficult to play, dramatically shortening the time that it takes for a player to lose his rocket ships and be forced to insert an additional coin to continue play. Artic itself recognized that that was the purpose of the speed-up kit in its earliest advertisements directed to video arcade owners. The advertisements read in part:

> "TRY OUR MEMORY BOARDS TO DOUBLE YOUR GALAXIAN INCOME."

Artic has sold at least 436 speed-up kits.

The Artic speed-up kit is made up of a relatively small printed circuit board with five devices called "EPROMs" (apparently similar to ROMs in function) on the top and two sets of pin connectors on the bottom. The two sets of connectors are spaced in such a way as to permit them to be plugged into the sockets in the Galaxian mother board into which the Galaxian piggyback memory board is normally plugged. The EPROMs on the speed-up kit contain a complete set of instructions necessary to cause the characters of the Galaxian game to move in a faster sequence.

Both the computer instructions in the ROMs on the Galaxian piggyback board and the instructions in the speed-up kit's EPROMs can be printed out on paper by a standard industry procedure using a machine known as a "development machine." That machine was used to print out the instructions in the Midway's ROMs and Artic's EPROMs. Dr. Thomas DeFanti, a professor of computer science at the University of Illinois, compared the two printed versions of the instructions. He found that out of about 10,000 "bytes" or computer words of source code in the two sets of programs, there were only about 488 differences. Dr. DeFanti's conclusion was, "[I]t is a clear case of copying here."

The use of the speed-up kit is substantially limited to attaching it to Galaxian games. In order for the kit to work on other games, Artic's printed circuit board would have been able to plug into the mother board of those games. In other words, the sockets on the mother board would have to be spaced in a manner to correspond to the connector pins on the speed-up kit. Also, the sockets would have to be properly connected electrically to the microprocessor. Finally, the programming language used in the EPROMs of the Artic kit would have to be compatible with the language read by the microprocessor on the mother board.

At the hearing, Artic demonstrated that the speed-up kit could be attached to two video games called "Uniwars" and "Moon Cresta." However, attaching the speed-up kit to those games substantially changed them. The kit caused the phrase "WE ARE THE GALAXIANS" to appear on the screen of both games in the attract mode. With the kit attached, the character images of the games assembled in a formation identical to the formation of the aliens in the Galaxian game and moved in exactly the same way as in the sped up version of the Galaxian game. When the games were played normally, without the speed-up kit attached, the images did not appear in such a formation, nor did they move in a manner similar to the Galaxian aliens. Midway presented evidence at the hearing

showing that it was physically impossible to fit the speed-up kit into the mother boards of several other video games.

The second item sold by Artic that is of interest in this litigation is a printed circuit board that is used to create a "Puckman" video game. Artic first sold a Puckman circuit board on November 25, 1980, after it became aware of the existence of Namco's Puckman game. In sum, Artic has sold between 500 and 1600 Puckman printed circuit boards in the United States.

The court viewed the Puckman game generated by Artic's printed circuit board. The only differences between Artic's Puckman game and Midway's Pac-Man game are (1) the names of the ghost characters in Artic's game are different from the names of Midway's characters, (2) the Midway copyright notice does not appear on Artic's game, and (3) the name of the game is different. Other than those trivial differences, the Artic game is absolutely identical to Midway's Pack-Man video game described above. In fact, it was demonstrated at an earlier hearing before the United States International Trade Commission that Artic's Puckman printed circuit board contains an error common to Midway's Pac-Man game.

Prior to the inception of this litigation, when Artic first began to sell its speed-up kits and Puckman circuit boards, it listed the names of its products on its invoices. Sometime in early 1981, after this suit was instituted, Artic began referring to its products by code designations. For example, the code "A 07" was used to refer to Puckman circuit boards. Then, in April 1981, Artic ceased referring to particular circuit boards entirely on its invoices, and began writing the term "P. C. Board" or its equivalent on invoices for the sale of Puckman circuit boards.

Discussion

The following four factors are to be considered in determining whether plaintiff is entitled to the entry of a preliminary injunction in its favor: (1) likelihood of success on the merits; (2)

irreparable harm if the injunction is not issued; (3) that the balance of hardships tips toward the plaintiff; and (4) whether or not granting the injunction is in the public interest. *See The Machlett Laboratories, Inc.* v. *Techny Industries, Inc.*, 665 F.2d 795 (7th Cir. 1981); *Helene Curtis Industries, Inc.* v. *Church & Dwight Co.*, 560 F.2d 1325, 1330 (7th Cir. 1977), *cert. denied*, 434 U.S. 1070 (1978); *Banks* v. *Trainor*, 525 F.2d 837, 841 (7th Cir. 1975), *cert. denied*, 424 U.S. 978 (1976).

I. Likelihood Of Success—Copyright Claim

Defendant Artic has launched a massive scattershot of arguments against the validity and application of Midway's copyrights in the games involved in this case. The court will attempt to deal with each of defendant's arguments in an organized fashion below.

A. Scope Of Copyright Protection

In registering its copyrights with the U.S. Copyright Office, Midway chose to register the sights and sounds of the Galaxian and Pack-Man games as audiovisual works. *See* 17 U.S.C. § 102(a)(6). "Audiovisual works" are defined in the Copyright Act as

> "works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied."

17 U.S.C. § 101. At this point, it is useful to delineate exactly what plaintiff contends its copyrights cover. Plaintiff claims copyright protection only in the series of images and sounds appearing on the screen on the Galaxian and Pac-Man games. Specifically, the protection extends to the fanciful design of the characters used to play the games, the distinctive manner in which the characters move, and the sounds associated with that movement. Several courts have recently concluded that those aspects of plaintiff's video games are the proper subjects

of copyright protection. *See Atari, Inc.* v. *North American Phillips Consumer Electronics Corp.*, No. 81-2920, Slip Op. at 14-21 (7th Cir. March 2, 1982); *Stern Electronics, Inc.* v. *Kaufman*, No. 81-7411 (2d Cir. Jan. 20, 1982); *Midway Manufacturing Co.* v. *Drikschneider*, No. 81-0-243 (D.Neb. July 15, 1981); *Williams Electronics, Inc.* v. *Artic International, Inc.*, Civ. No. 81-1852 (D. N.J. June 24, 1981).

Throughout this litigation, Artic has contended that the plaintiff's copyright protection extends only to the particular videotapes submitted to the Copyright Office for registration. Artic's argument rests largely upon the general deposit requirements of 17 U.S.C. § 408, which state:

> "(b) Deposit for Copyright Registration.—Except as provided by subsection (c), the material deposited for registration shall include—
>
> . . .
>
> "(3) in the case of a work first published outside the United States, one complete copy or phono-record as so published[.]"

Artic claims that since the videotapes were submitted as "copies" of the works, the works that Midway sought to copyright were only those tapes, not the games themselves.

Midway sharply disagrees with the argument made by Artic. Midway argues that the videotapes were not "copies" of the works but rather were identifying material submitted in lieu of actual copies of the works, pursuant to Copyright Office regulations authorized by 17 U.S.C. § 408(c). While Midway does recognize that there are no regulations specifically covering video games, there are regulations for "[w]orks reproduced in or on three-dimensional objects." 37 C.F.R. § 202.20(c)(2)(ix). The deposit requirement for such works may be met by submitting "identifying material," *Id.*, which is defined as:

> "photographic prints, transparencies, photostats, drawings, or similar two-dimensional reproductions or renderings of the work, in a form visually perceivable without the aid of a machine or device."

37 C.F.R. § 202.21. The brochures submitted along with the videotapes would best satisfy that definition, with the result that the games themselves, not just the videotapes, are the subjects of the copyrights.

While there is substantial force to Midway's arguments, the court finds that it does not need to rely on the technicalities of the Copyright Office's regulations to find that Midway's copyrights cover the video games themselves, and not just the videotapes. Artic's argument to the contrary fails, because it relies on a far narrower definition of the word "copy" than that used in the Copyright Act. In the Act, the term "copies" is defined as follows:

> " 'Copies' are material objects, other than phonorecords, in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."

17 U.S.C. § 101. That definition makes clear that a copy may be made in any medium whatsoever, so long as the work can be perceived from it. The videotape submitted to the Copyright Office is no less a copy of Midway's audiovisual work, than the game machine itself is. As this court said in an earlier opinion in this case,

> "It should be emphasized that merely because the work is fixed in the tapes submitted to the Copyright Office, it does not necessarily follow that the tapes are the works themselves. The original work of the authorship should not be confused with the material objects in which the work must be fixed. See, 1 Nimmer on Copyrights § 2.03."

Midway Manufacturing Co. v. *Artic International, Inc.*, No. 80 C 5863, slip op. at 16 (N.D.Ill. June 2, 1981) (order denying defendant's motion for summary judgment). Here, the videotapes were merely copies of the work. The work, for which copyright protection was granted, is the audiovisual display reflecting the author's creativity.

B. Validity of Midway's Copyrights

Section 410(c) of the Copyright Act, 17 U.S.C. § 410(c), provides that a certificate of registration from the Copyright Office "shall constitute prima facie evidence of the validity of the copyright." As noted above, plaintiff Midway has received Certificates of Copyright Registration from the Copyright Office covering both its Galaxian and Pac-Man games. Artic has the burden of overcoming that presumption of validity in this case. *See Flick-Reedy Corp.* v. *Hydro-Line Manufacturing Co.*, 351 F.2d 546 (7th Cir. 1965), *cert. denied*, 383 U.S. 958 (1966).

Artic makes three arguments which it contends overcome the presumption of validity. First, Artic contends that the audiovisual aspects of Midway's video games are not "fixed in any tangible medium of expression," 17 U.S.C. § 102(a), and so do not qualify for copyright protection at all. Second, Artic claims that the publication of the video games by Namco in Japan, without the proper copyright notice attached, resulted in forfeiture of the copyrights under 17 U.S.C. § 401. Finally, Artic argues that the video games may not be copyrighted because they are useful, mechanical devices not subject to copyright protection. Each of Artic's contentions will be considered in turn.

Before a copyright can attach in any original work of authorship, the work must be "fixed in any tangible medium of expression, now known or later developed, from which [it] can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. § 102(a). The phrase is defined in the Copyright Act as follows:

> "A work is 'fixed' in a tangible medium of expression when its embodiment in a copy or phono-record, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration."

17 U.S.C. § 101.

Artic contends that the audiovisual displays of Midway's games do not meet that requirement. Artic's argument is based on the specific technology by which the images that appear on the game screens are generated. Basically, Artic notes that the ROMs in the video games do not contain enough memory to store the entire picture that appears on the game's screen at any one instant. Rather, the ROMs contain a number of symbols or patterns which are combined in various ways by the microprocessor to make up the images seen on the screen. Artic argues, therefore, that the computer is simply generating a new set of pictures at all times, pictures that are themselves not fixed in any medium.

While Artic's argument has a certain facial validity, it nonetheless fails. The fixation requirement, as is clear from the statute, does not require that the work be written down or recorded somewhere exactly as it is perceived by the human eye. Rather, all that is necessary for the requirement to be satisfied is that the work is capable of being "reproduced . . . with the aid of a machine or device." 17 U.S.C. § 102(a). As was amply demonstrated by Midway at the hearing, the audiovisual features of its games may be reproduced over and over again, for extended periods of time. The attract modes of the two games, for instance, repeat themselves over and over again, in identical fashion, for as long as the games are turned on and no one is playing them. The copyrightable aspects of the play mode likewise repeat themselves whenever the game is played.

Artic attempts to draw support for its position from a statement in the Report of House Judiciary Committee on the Copyright Act. The Judiciary Committee stated:

> "[T]he definition of 'fixation' would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen, shown electronically on a television or other cathode ray tube, or captured momentarily in the 'memory' of a computer."

H.R. Rep. No. 94-1476, 94th Cong., 2nd Sess. 53, *reprinted in* [1976] U.S. Code Cong. & Ad. News 5659, 5666. When read in

context, however, the "purely evanscent or transient reproductions" referred to by Congress are those arising from live telecasts or performances that are nowhere separately recorded. Clearly, the lack of any recording of such events would preclude their ever again being identically reproduced. In the instant case, the copyrighted material is recorded in the ROMs and may be reproduced with the aid of the microprocessor. While the technology of the reproduction is different than that encountered with videotape, Congress has allowed for that eventuality by allowing for fixation in mediums of expression either "now known or later developed." 17 U.S.C. § 102(a). The technology used in the video games is one such later developed medium of expression.

Defendant also claims that Midway's copyright in the video games is void because Namco, the developer of both games, published them in Japan without attaching any copyright notice. 17 U.S.C. § 401(a) provides that"

> "Whenever a work protected under this title is published in the United States or elsewhere by authority of the copyright owner, a notice of copyright as provided by this section shall be placed on all publicly distributed copies from which the work can be visually perceived, either directly or with the aid of a machine or device."

Evidence was presented at the hearing which showed that Namco's game machine did not display a copyright notice. Artic argues that the failure to attach a copyright notice to those games voids Midway's copyrights.

Defendant's argument is not supported by the Copyright Act, however. The statute only requires notice to be placed on those copies published "by authority of the copyright owner." *Id.* Midway is the owner of the United States copyright in the games, as is evidenced by the certificates of registration. As noted above, all copies of the games published or sold by Midway contained sufficient notice to comply with the requirements set forth in the Act. Midway did all that it could reasonably do to comply with the Act. It has no control over the actions taken by Namco in Japan. *See Goldman-Morgen, Inc.*

v. *Dan Brechner & Co.*, 411 F.Supp. 382, 389-90 (S.D.N.Y. 1976).

Finally, Artic suggests that Midway has attempted to acquire copyright protection for utilitarian objects, which are not the proper subjects of copyright protection. Artic's argument here is apparently in two parts. Artic initially claims Midway's attempt to copyright the audiovisual aspects of its games was, in reality, an attempt to copyright the ROMs in the games. Because the ROMs are utilitarian objects, they may not be copyrighted. *See Esquire, Inc.* v. *Ringer*, 591 F.2d 796 (D.C. Cir. 1978), *cert. denied*, 440 U.S. 908 (1979). While the court agrees that utilitarian objects may not be copyrighted, it appears that Artic has misconstrued the copyrights at issue in this case. As noted above, Midway has sought and obtained protection for the audiovisual aspects of its games that appear on the screen. Midway no more restricts the use of ROMs than an author with a valid copyright restricts the use of books.

The second part of defendant's argument here apparently rests on the contention that games are themselves utilitarian objects and, therefore, cannot be the subject of copyright protection. As it did in its earlier opinion, the court once again must reject that argument. To again quote Professor Nimmer:

> "It is true that no copyright may be obtained in the system or manner of playing a game or in engaging in other sporting or like activity. However, some limited copyright protection is nevertheless available in connection with games. It would seem that a relatively minimal artistic expression, if original, would render copyrightable labels for games, as well as the pattern or design of game boards . . ."

1 Nimmer on Copyrights § 2.18[H][3]. As discussed above, Midway has obtained copyright protection for the artistic expression which appears on the screen of its games (the "game board" in this instance).

C. Registration Of Midway's Copyrights

Artic claims that Midway was guilty of several instances of improper or fraudulent conduct before the Copyright Office

when attempting to register its copyrights in the two video games. The alleged fraud is the basis for Artic's motion for summary judgment on the copyright claims, which motion will be discussed at the present time.

The legal effect of fraud on the Copyright Office has been stated as follows:

> "The knowing failure to advise the Copyright Office of facts which might have occasioned a rejection of the application constitute reason for holding the registration invalid and thus incapable of supporting an infringement action, 1 Nimmer § 94, or denying enforcement on the ground of unclean hands . . ."

Russ Berrie & Co. v. *Jerry Elsner Co.*, 482 F.Supp. 980, 988 (S.D.N.Y. 1980). *See Vogue Ring Creations, Inc.* v. *Hardman*, 410 F.Supp. 609 (D.R.I. 1976). Defendant's motion for summary judgment relies largely on its claim, discussed above, that plaintiff Midway has succeeded in copyrighting only the videotapes it submitted to the Copyright Office. On the basis of that assumption, Artic says that a number of the statements made by Midway on the applications for its copyrights were false. Specifically concerning the Galaxian application, Midway stated that the work that it was copyrighting was published in Japan on September 15, 1979, by Namco, Limited, the author of the work. As Artic notes, those facts are not correct if the "work" copyrighted was the videotape, which was made by Midway in Illinois on February 14, 1980, and never published at all.

In addition, Artic relies on the testimony of one David Albee, Senior Copyright Examiner for the Copyright Office. Mr. Albee was the examiner who handled Midway's Galaxian and Pac-Man copyright applications. He testified at a hearing held before the United States International Trade Commission, which was considering many of the issues currently before this court, and a transcript of his testimony was admitted into evidence before the court during the preliminary injunction hearing. To the extent that Mr. Albee was able to remember anything about the video game applications, he testified

that an attorney for Midway told him that the videotapes had been published and that the copies were used for promotional purposes. Mr. Albee also testified that he viewed the tapes.

Finally, Artic points out that, in its cover letters submitted with the copyright applications, Midway states that it is depositing "one copy" of the work to be copyrighted. Artic states that the videotapes were, at best, only "identifying material" rather than copies of the work. Artic claims that Midway never informed the Copyright Office that it was submitting "identifying material" instead of copies of the works until long after the certificates of registration were issued.

Viewing the evidence presented by Artic as a whole, it is clear that Artic has not met its burden of showing that Midway defrauded the Copyright Office. Much of Artic's alleged evidence of fraud is based on the mistaken proposition that Midway's trademarks cover only the videotapes submitted to the Copyright Office. As noted, the videotapes are merely copies of the work to be copyrighted. Consequently, the statements made by Midway in its letters and application to the Copyright Office were, so far as the evidence shows, entirely proper and certainly not fraudulent.

The court also is not persuaded by the testimony of Mr. Albee. The Administrative Law Judge, who was in charge of the hearing before the International Trade Commission and who observed Albee's testimony personally, stated as follows:

> "The testimony of Examiner Albee does little to prove Artic's allegations. . . . The witness stated repeatedly that he did not recall specific details. To the extent he could recall, that recollection was sketchy at best. This fact is well illustrated by his testimony that he viewed the entire videotape deposited with him. . . . Since the content of that tape clearly conflicts with some of his hazy impressions of representations allegedly made to him by Mr. Larson [Midway's attorney], it is impossible to place any credence in those recollections. The testimony of Messrs. Deitz and Larson are substantially in agreement as to the critical facts. Consequently, there is no basis for a

> finding of material misrepresentation as to what was being deposited for what purpose."

In re Certain Coin-Operated Audiovisual Games and Components Thereof (viz Rally-X and Pac Man), Investigation No. 337-TA-105, slip op. at 55 (U.S. Int'l. Trade Comm. Nov. 16, 1981) (Recommended Determination of John J. Mathias, Administrative Law Judge). The court has reviewed the transcript of Mr. Albee's testimony, and is in complete agreement with the Adminstrative Law Judge. It is not surprising that a copyright examiner would have difficulty remembering the facts surrounding a particular copyright application. Testimony presented at the International Trade Commission hearing indicated that each examiner reviews as many as 10,000 different applications per year.

The above analysis by the court should not be taken to mean that the court totally disagrees with the propositions put forth by Artic. It does appear that the applications and procedures followed by Midway in registering its copyrights were not entirely clear and straightforward. However, much of whatever confusion there was appears to have resulted from the fact that Midway was attempting to copyright new technology that the Copyright Office had never directly dealt with before. Particularly in view of that situation, the court is guided by the following statement in *Freedman* v. *Milnag Leasing Corp.*, 20 F.Supp. 802, 804 (S.D.N.Y. 1937):

> "It will not do to be overstrict as to the technicalities of the Copyright Act . . . If the statute is substantially and in good faith complied with by a person seeking copyright protection and if others have not been misled into thinking that the work is not copyrighted, it is enough."

See also Johnson v. *Salomon*, 197 U.S.P.Q. 801, 820-21 (D.Minn. 1977); *Champion Map Corp.* v. *Twin Printing Co.*, 350 F.Supp. 1332 (E.D.N.C. 1971). No evidence has been presented here that anyone was misled by any of Midway's actions. Consequently, Artic's motion for summary judgment on the copyright issues is denied.

In addition to claiming that Midway engaged in fraud before the Copyright Office, Artic also argues that Midway failed to comply with the requirements of 17 U.S.C. § 205(d). That subsection provides:

> "No person claiming by virtue of a transfer to be the owner of copyright or of any exclusive right under a copyright is entitled to institute an infringement action under this title until the instrument of transfer under which such person claims has been recorded in the Copyright Office, but suit may be instituted after such recordation on a cause of action that arose before recordation."

Artic's arguments under this section center on the Pac-Man registration. The recorded document for that copyright is dated October 10, 1980, and is entitled "Assignment of Copyrights." It reads in part as follows:

> "Namco Limited . . . has assigned to and does hereby assign to Midway Mfg. Co. . . . the entire right, title and interest in common law and statutory copyrights in and to said Game [Pac-Man] in the United States and The Western Hemisphere."

On the following day, a representative of Midway signed and dated a letter to the president of Namco relating to the assignment of the copyrights. That letter states in full:

> "Midway Manufacturing Co. fully understood and agreed that the "ASSIGNMENT OF COPYRIGHTS" for both [PAC-MAN] and [RALLY-X] which were signed by Namco's representative and granted to Midway Mfg. Co. shall be governed and restricted by the License Agreement of the above games. The License Agreement above mentioned shall be finalized no later than November 15, 1980."

Finally, on November 4, 1980, Namco and Midway entered into a formal "LICENSE AGREEMENT" under which Midway received the full rights to market the Pac-Man game in the United States. Paragraph 2(b) of that document once again purports to transfer from Namco to Midway all United States copyrights in the Pac-Man game. Artic claims that the October 10 document which was recorded was not the "instrument of

transfer" required by the statute. Rather, Artic says that Midway should have recorded the November 4 license agreement, which, Artic argues, *actually* transferred the copyrights.

The court begins its analysis by noting that the language of the assignment, by its terms, clearly transfers Namco's copyrights in the Pac-Man game to Midway. That transfer is not repudiated in the subsequent letter from Midway to Namco. The letter only states that the extremely general grant, registered with the Copyright Office, is subject to a more specialized agreement between the parties. It is instructive to note that the more specialized license agreement, insofar as the copyright is concerned, is entirely consistent with the earlier assignment. Apparently, the practice followed by Midway in this case is well accepted by the Copyright Office. Professor Nimmer states:

> "A transferee sometimes hesitates to record his transfer for the reason that he does not wish the amount or nature of the consideration which he has paid to become a matter of public knowledge. This problem is often solved through the device of the so-called 'short term' document of transfer. That is, at the same time the transferor executes the full contract of transfer which recites the consideration which the transferee has or will thereafter pay to the transferor, a second short form document is also executed by the transferor which recites in full the rights transferred but which refers to the consideration therefor either in general terms (*e.g.*, 'for good and adequate consideration') or which refers to the longer document for a recitation of the consideration. Only the short form is recorded." 3 Nimmer on Copyright § 10.07[A], n. 2 (1981). While there are some technical differences between the parties described by Professor Nimmer and that followed by Midway in the instant case (i.e., the two documents were not executed at the same time and the "short form" that was recorded does not contain a purely formalistic statement of consideration), the court does not believe that those differences are significant. The court finds that Midway adequately complied with the requirements of 17 U.S.C. § 205(d).

D. Artic's Infringement Of Midway's Copyrights

Section 106 of the Copyright Act provides the following exclusive rights to the holders of valid copyrights:

> "(1) to reproduce the copyrighted work in copies . . .;
>
> "(2) to prepare derivative works based upon the copyrighted work;
>
> "(3) to distribute copies . . . of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
>
> "(4) in the case of . . . motion pictures and other audiovisual works, to perform the copyrighted work publicly; and
>
> "(5) in the case of . . . the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly."

17 U.S.C. § 106. Midway claims that one or more of those exclusive rights are violated by Artic's sale of its Puckman printed circuit boards and its Galaxian speed-up kits.

Turning first to the Puckman printed circuit boards, Midway contends that their sale violates its right to make copies. Artic's circuit boards fit well within the definition of "copies" under 17 U.S.C. § 101, because they are "material objects . . . in which a work [here Puckman] is fixed . . . and from which the work can be perceived . . . with the aid of a machine."

Artic suggests that this court should not find that its circuit boards infringe Midway's valid copyrights, because no evidence showing direct proof of copying was presented at the hearing. Courts, however, have recognized the difficulty that plaintiffs are likely to have in finding direct proof of copying of a protected work, and have allowed a finding of copying from evidence that the defendant had access to the copyrighted work and that defendant's work is substantially similar to plaintiff's. *See Walker* v. *University Books, Inc.*, 602 F.2d 859 (9th Cir. 1979); *Granite Music Corp.* v. *United Artists Corp.*, 532 F.2d 718 (9th Cir. 1976).

Here, there is ample evidence of Artic's access to the copyrighted work. Artic's president admitted that he became aware of Namco's Puckman game in Japan before Artic began selling the printed circuit boards. In addition, Artic began selling the boards after Midway's Pac-Man game was widely distributed in the United States. It was also demonstrated at the hearing that Artic's Puckman game is not only "substantially similar" to Midway's Pac-Man, but that the two games are, in fact, essentially the same. There is ample evidence that Artic copied Midway's Pac-Man game.

Artic makes two arguments which, it claims, preclude a findig of infringement, even if the court finds that Artic copied Midway's Pac-Man game. First, Artic urges this court to follow the district court holding in *Data Cash Systems, Inc.* v. *JS&A Group, Inc.*, 480 F.Supp. 1063 (N.D.Ill. 1979), *aff'd on other grounds*, 628 F.2d 1038 (7th Cir. 1980). That case involved a computer program designed to be used in a computerized chess game. The written program itself was copyrighted by the plaintiff in that case. The program was then embodied in a ROM, which was made part of a hand-held computer chess game. The defendants allegedly copied plaintiff's ROM and used it in a computer chess game of their own. The district court granted summary judgment for the defendants, stating,

> "Even assuming that the ROM in plaintiff's CompuChess was copied by defendants JS&A, Sugarman and Stanke, the ROM is not a 'copy' of plaintiff's computer program and therefore the copying is not actionable. Since a complete defense as a matter of law with respect to plaintiff's claim of copyright infringement exists, the motion of defendants JS&A, Sugarman and Stanke for summary judgment is granted . . ."

480 F.Supp. at 1069. Artic argues that, if it copied anything from Midway's game, it copied the ROMs only. Therefore, following *Data Cash*, the court should find as a matter of law that no infringement took place.

The court, however, is unable to accept Artic's argument. Initially, it is important to note that, in affirming the district

court's outcome in *Data Cash*, the Seventh Circuit Court of Appeals expressly refused to consider the grounds relied upon by the lower court, saying, "The parties had neither briefed nor argued that issue and neither side on appeal defends the district court's position, so we do not consider it further." 628 F.2d at 1041. Also, another district court has expressly rejected the lower court's reasoning in *Data Cash*. *See Tandy Corp.* v. *Personal Micro Computers, Inc.*, No. C-81-0744 RFP (N.D.Cal. Aug. 31, 1981).

This court as well is not persuaded by the lower court's reasoning in *Data Cash*. To reach its conclusion that a ROM can never, as a matter of law, be a "copy" of anything, that court adopted the following definition of the word "copy": "Both at common law and under the 1909 Act, a 'copy' must be in a form which others can see and read." 480 F.Supp. at 1068. That definition is far narrower than the one adopted by Congress and included in the current Copyright Act. As noted above, the word "copy" is there defined, among other things, as a material object in which the work is fixed "and from which the work can be perceived . . . with the aid of a machine." 17 U.S.C. § 101. By its very terms, that includes items like videotapes and tape recordings that cannot be read with the naked eye, and definitely covers the ROMs used by Midway in its Pac-Man game. This holding is supported by the General Counsel of the International Trade Commission. He said,

> "Complainant further argues that if a work is embodied in an object, be it a ROM, a tape or a disc, that work is copyrightable, regardless of whether machines, with or without the aid of computer programs, are necessary for the work to be visually perceived. As stated by Nimmer, 'a work is no less a motion picture (or other audio-visual work) because the images are embodied in a video tape, video disc, or any other tangible form.' 1 *Nimmer* § 2.09[D]. . . . The General Counsel agrees with this position."

Memorandum from the General Counsel of the International Trade Commission to The Commission, at 7 (June 8, 1981).

Artic also suggests that its copies of the Pac-Man printed circuit boards do not constitute infringement of Midway's copyright, because the boards are useful devices that may be and are used to repair defective or broken video games. This argument is easily disposed of. Whether or not Artic's statement of the relevant law is correct, no evidence was presented at the hearing which tended to show that Artic's Puckman circuit boards were used for innocent purposes. To the contrary, there was substantial evidence presented which showed that even Artic recognized that its boards were being used in contravention of the law. As soon as this suit was filed, Artic began taking every effort to disguise the fact that it was selling Puckman circuit boards.

The question of whether Artic's speed-up kits, used in Midway's Galaxian game, violate any of Midway's exclusive rights is more difficult. Fortunately, many of those difficulties were dealt with in this court's June 2, 1981, ruling in this case denying Artic's motion for summary judgment.

Midway again claims that Artic's speed-up kits violate the second of its five exclusive rights provided by the Copyright Act, specifically, the right "to prepare derivative works based upon the copyrighted work." 17 U.S.C. § 106. In its earlier opinion, the court stated:

> "The court believes that the success of this theory depends on the resolution of two key factual questions. The first factual question concerns the scope of the copyright. It is, of course, impossible to tell whether defendant has induced others to prepare a derivative work, when the court is uncertain as to what original work was copyrighted. As noted, the scope of the copyright is in dispute between the parties. Second, there is also the factual question of whether the speed up kits are designed and used solely to modify the visual images of plaintiff's copyrighted game or whether the device can be used in a variety of electronic games."

Midway, supra, slip op. at 18. The evidence presented at the hearing allows the court to now address those factual concerns.

As this court discussed at length above, the copyrighted work at issue in this case is the audiovisual display that appears on the video game's screen. The speed-up kit sold by Artic clearly changes that display during the play mode of the game. The characters in the game move at a faster speed, and the number of alien characters that attack the character controlled by the player is increased. Such modifications of plaintiff's copyrighted display fit well within the definition of derivative works.

Also, the facts presented at the hearing clearly show that the speed-up kit was designed solely to modify Midway's Galaxian game. In no way can it be described as a technological breakthrough benefitting the entire electronic games industry. The evidence showed that the speed-up kit is physically compatible with very few games other than Galaxian. To the extent that the kit did work in other games, it changed them in ways which further showed that it was meant to be used only in the Galaxian game. For example, it caused the words "WE ARE THE GALAXIANS" to appear on the screens of the other games, and caused the characters of those games to move in a way extremely similar to the way the characters in the Galaxian game moved. Also, the earliest advertising used by Artic to promote its speed-up kits referred only to speeding up Galaxian games. No other use of the kit was mentioned. In view of the above factual showings, the court concludes that Artic's speed-up kits are infringing "derivative works" of Midway's Galaxian video game.

In summary, the court is convinced that Midway has shown a likelihood of success on its copyright claims, despite the plethora of arguments to the contrary raised by Artic. Midway has shown that it is the owner of valid copyrights covering the audiovisual features of both its Galaxian and Pac-Man video games. Midway has also shown that those copyrights are infringed by the actions of the defendant, Artic. Because the court believes Midway will prevail on its copyright claims, it is not necessary for the court to consider Midway's claims based

on its trademarks, the Lanham Act, and various provisions of state and common law.

II. Irreparable Harm

In a copyright infringement case, the burden on the plaintiff to show irreparable harm necessary to support a preliminary injunction is very light. In fact, if the plaintiff can show probable success on the merits, the requisite irreparable injury is normally presumed. *Wainwright Securities Inc.* v. *Wall Street Transcript Corp.*, 558 F.2d 91 (2d Cir. 1977), *cert. denied*, 434 U.S. 1014 (1978); *Novelty Textile Mills, Inc.* v. *Joan Fabrics Corp.*, 558 F.2d 1090 (2d Cir. 1977).

Defendant attempts to rebut this assumption of irreparable harm, at least so far as the Galaxian game is concerned, by noting that Midway no longer sells that game. Consequently, Midway could not possibly lose any sales as a result of defendant's infringement. Particularly in the case of the speed-up kit, however, that showing is not enough to rebut the presumption of irreparable harm. Plaintiff's reputation for high quality and distinctive video games is entitled to protection from copyright infringers, just as its potential sales are. *See Dallas Cowboys Cheerleaders, Inc.* v. *Pussycat Cinema, Ltd.*, 604 F.2d 200 (2d Cir. 1979). Artic's speed-up kit modifies Midway's Galaxian game in such a way as to make it considerably more difficult, for the unskilled player in particular. It is very possible, if not likely, that that will discourage those individuals from playing Midway's video games, and so reduce the overall demand for plaintiff's games as a whole. Such damages would be impossible to measure in monetary terms.

III. Balance Of Hardships

If this preliminary injunction does not issue, Midway's substantial investment in Galaxian and Pac-Man, two extremely popular video games, will be jeopardized. On the other hand, Artic's president has testified that Artic has a substantial business in the sale of integrated circuits, that the speed-up kit is not a substantial part of Artic's business, and that Artic sells

printed circuit boards for about thirty different games. In view of that, the court finds that the balance of hardships clearly favors issuing an injunction. *See Midway Manufacturing Co. v. Drikschneider, supra*, slip op. at 20.

IV. The Public Interest

The Copyright Act evidences a public interest in creativity by demonstrating an intent to provide an economic reward for creative expression. By granting an injunction here, the court would be furthering that interest by rewarding plaintiff's development and dissemination of new video games. The court can conceive of no public interest that is furthered by allowing defendant to continue to distribute and sell its infringing material.

V. Conclusion

For the reasons stated above, the court finds that plaintiff has successfully demonstrated that all elements necessary for issuing a preliminary injunction are present in this case. Therefore, plaintiff's motion for preliminary injunction is granted, and defendant's motion for summary judgment on copyright issues is denied. Defendant Artic and its agents and servants are hereby preliminarily enjoined from selling, marketing, distributing, or otherwise disposing of the items found in this opinion to infringe plaintiff Midway's copyrights in the Galaxian and Pac-Man video games, and defendant is preliminarily enjoined from inducing others to infringe those copyrights. Plaintiff will prepare an appropriate order to submit to the court, and at that time, bond will be fixed.

ENTER:

/s/ Bernard M. Decker
BERNARD M. DECKER
United States District Judge

DATED: March 10, 1982.

APPENDIX C

DISTRICT COURT, N.D. ILLINOIS

No. 80 C 5863
Decided June 2, 1981

MIDWAY MFG. CO.
v. ARTIC INTERNATIONAL, INC.

Decker, District Judge.

Plaintiff Midway Mfg. Co. sells certain electronic games including Galaxian and Pac-Man. Defendant Artic International, Inc., sells and manufactures electronic components. Allegedly, Artic has recently begun to sell electronic devices that are intended to simulate Midway's Galaxian and Pac-Man games as well as devices that are designed to be inserted into Midway's Galaxian game to speed up and otherwise alter the play of the game (hereinafter speed-up kits).

Plaintiff filed this suit against Artic for copyright infringement, trademark infringement, violations of the Lanham Act and for various unfair competition violations under Illinois law. Defendant has counterclaimed, alleging, inter alia, violations of the antitrust laws. Currently pending are the following motions:

(1) Defendant's motion—

for partial summary judgment, to dismiss the complaint,

to strike plaintiff's amended motion for a preliminary injunction,

to strike superfluous material from the amended complaint, and

two motions for sanctions.

(2) Plaintiff's motions—

for leave to file a second amended and supplemental complaint, and

to compel discovery under Rule 37.

Plaintiff asserts that the Galaxian game is housed in a cabinet containing electronic circuitry. The circuitry in turn produces the visual images of the game on a television picture tube. The visual images that are presented on the screen appear in two modes. The first mode is the "attract" mode. It appears prior to the commencement of the game and visually summarizes the game. This mode consists of a fixed sequence of images that play in a "loop" of approximately one minute's duration.

The second mode is the "play" mode, which begins when a coin is deposited in the machine and the start button is pushed. During this mode, the images on the screen respond in some degree to the player's movement of the hand controls on the cabinet.

The object of the Galaxian game is to "destroy" a convoy of "aliens" which continually shifts from side to side on the screen. The aliens in the convoy are of a variety of ranks and colors. Throughout the game, aliens break off from the convoy and swoop down to "bomb" a "flagship" that is controlled by the player. The player's score is measured by the number and rank of aliens destroyed.

Allegedly, Midway has recently acquired rights to a game entitled Pac-Man. This is a maze game wherein a cartoon-like figure controlled by the player attempts to devour adversaries moving through the maze before the player controlled figure is destroyed by its opponents. Like Galaxian, Pac-Man has both an attract and play mode.

Plaintiff's Motion for Leave to File a Second Amended and Supplemental Complaint and Related Motions.

On October 31, 1980, plaintiff filed its complaint alleging that defendant had infringed the copyrights in the Galaxian game.

On December 10, 1980, plaintiff, with leave of court,[1] filed an amended and supplemental complaint. This filing generated two motions on the part of the defendant (defendant's motion to strike plaintiff's motion for preliminary injunction (1/5/81); and defendant's motion to strike superfluous material from amended * * * complaint (4/7/81).

The amended and supplemental complaint contained allegations concerning defendant's alleged infringement of the Pac-Man game. The original complaint did not contain such allegations. Defendant answered the allegations of the amended complaint, including those relating to Pac-Man on December 30, 1980. Defendant never objected to the filing of the amended and supplemental complaint. Defendant now objects to the filing of the second amended complaint on several grounds.

In Forman v. Davis, 371 U.S. 178 (1962), the Supreme Court reiterated the philosophy of Rule 15 that amendments of the pleadings are to be freely granted, even after the original complaint has been dismissed. If the underlying facts relied upon by a plaintiff may be the proper subject of relief, he ought to be afforded an opportunity to test his claim on the merits.

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[1] Defendant contends that the amended and supplemental complaint was filed without leave of the court. Such an assertion is simply untrue. On December 9, 1980, at motion call before this court with both plaintiff's and defendant's attorneys present, plaintiff's counsel informed the court that he intended to file an amended complaint on December 10, 1980. This court inquired how the amended complaint changed the cause of action. Plaintiff's counsel replied in part: "It * * * adds a count of copyright infringement of another copyright which has issued since the original complaint was filed * * *" The court replied: "It is a supplement to that extent, I guess?" Plaintiff's counsel stated, "Yes, it is, your Honor." The court then ordered defendant twenty days from the 10th of December to file an answer to the amended and supplemental complaint. During that time, and indeed up to the present motion, defendant never once asserted that plaintiff failed to receive leave of court to file the amended and supplemental complaint.

With these liberal principles in mind, the court must attempt to sort out the confused state of the pleadings.

There can be little doubt that plaintiff is entitled to file his second amended complaint. The only objection defendant has to the second amended complaint is that in the prayer for relief for Count I, it adds a specific reference to Pac-Man. The amended and supplemental complaint, paragraphs 12-23, made specific allegations, which defendant answered, concerning Pac-Man. Thus, instead of relying on a general prayer for relief, plaintiffs now ask for specific relief concerning Pac-Man. The first amended and supplemental complaint gave defendant adequate notice that defendant's alleged infringement of the Pac-Man copyright is at issue in that case. Defendant still objects to the filing of this second amended and supplemental complaint on a number of grounds.

Defendant argues that plaintiff cannot amend his complaint because Rule 15(d) only allows the presentation of subsequent matter relating to the claim presented in the original pleading. 3 Moore's Federal Practice ¶ 15.16[1]. Defendant argues that since the original complaint and the amended complaint did not refer to Pac-Man, plaintiff cannot now amend his complaint to refer to Pac-Man.[2]

First, the court notes that defendant never attacked the adequacy of the first amended and supplemental complaint on this ground. Thus, the question is not the adequacy of the first amended and supplemental complaint, but rather whether plaintiff should be given leave to amend the amended and supplemental complaint.

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[2] Moreover, even if defendant had made this objection to the first amended and supplemental complaint, it is doubtful that it would have succeeded. Most of the cases cited by defendant were overruled by the 1963 amendment to F. R. Civ.P. 15(d). See, 3 Moore's Federal Practice ¶ 15.16(2) and (3).

Rule 15(d) only applies when a complaint seeks to add events which "happened since the date of the pleadings sought to be supplemented." F.R.Civ.P. 15(d). The pleading sought to be supplemented in this action was filed on December 10, 1980. None of the events alleged in the second amended and supplemental complaint occurred after December 10, 1980. Thus, Rule 15(a) and not 15(d) governs disposition of the question here.

Defendant argues that plaintiff has waited four months to seek leave to file this complaint and that the doctrine of laches prevents him from filing it now. Specifically, defendant claims that he thought this litigation was limited to Galaxian and to its prejudice only took discovery on the Galaxian issue.

Defendant's argument overlooks the fact that the first amended and supplemental complaint gave defendant notice of the Pac-Man claim. Defendant claims that it did not, since it omitted specific reference to Pac-Man in its prayer for relief. It is settled law in this Circuit, however, that if "the appellant has stated a cause of action for any relief, it is immaterial what he designates it or what he asked for in his prayer; the court will grant him the relief to which he is entitled under the facts pleaded." Kansas City, St. L. & C.R. Co. v. Alton R. Co., 124 F.2d 780, 783 (7th Cir. 1941). And as one court in this district has stated, "A court of equity is not limited by the precise demands of the pleadings, especially where the pleadings contain prayers for such other relief as this Court may deem just and appropriate." Chicago & Eastern Illinois Railroad Co. v. Illinois Central Railroad Co., 261 F.Supp. 289, 307 (N.D.Ill. 1966). Defendant should have been aware since December 10, 1980, that Pac-Man was at issue in this case. Consequently, it can claim no prejudice or lack of diligence on the part of plaintiff's counsel. Consequently, plaintiff's motion for leave to file a second amended and supplemental complaint is granted.

This decision largely resolves three other motions. First, defendant moved to strike all reference in the amended and supplemental complaint to Pac-Man because the complaint

made no reference to Pac-Man in the prayer for relief. Because the court has granted plaintiff leave to amend that complaint, that motion is now moot.

Additionally, defendant's motion to strike the plaintiff's second motion for a preliminary injunction must be denied. On December 8, 1980, plaintiff served and noticed up a motion for a preliminary injunction. On December 9, 1980, the court set a briefing schedule on that motion. On December 10, 1980, defendant was served with an amended and supplemental complaint. The court and defendant had notice that an amended complaint was going to be filed. On December 23, without noticing up the motion, plaintiff filed an amended motion for preliminary injunction for the purpose of conforming the relief sought in the preliminary injunction to the facts pleaded in the amended complaint. Along with the amended motion for preliminary injunction, plaintiff filed a memorandum in support of his motion and several documents in accordance with the briefing schedule.[3]

Defendant contends that because the amended motion for preliminary injunction was not noticed up, it should be stricken. This argument brings new meaning to the word technicality. While it may be true that it would have been the safer course of action to present the amended motion in court with proper notice, there was no reason, other than avoiding the present dispute for doing so. The court had given plaintiff leave to file a memorandum in support of its motion for preliminary injunction to be due on December 23. Since the amended motion was being filed pursuant to the briefing schedule and was not presented in open court, there was no reason to notice up the motion. Moreover, the amended motion only differs from the original motion in that it seeks broader relief. No purpose would be served, under these circumstances, in striking this

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[3] While some of these documents were evidently incomplete, plaintiff later furnished defendant with a complete set of the documents.

motion only to have plaintiff re-present in open court tomorrow.

Defendant's second argument for striking the second motion for a preliminary injunction is that it seeks broader relief than the amended and supplemental complaint. While this argument lacks merit in light of the principles stated in Kansas City, supra, and Chicago & Eastern Illinois Railroad, supra, the filing of the second amended and supplemental complaint now moots the argument. The prayers for relief in the complaint and the preliminary injunction are now identical. Consequently, defendant's motion to strike plaintiff's amended motion for a preliminary injunction is denied. Defendant is ordered to respond to plaintiff's motion for a preliminary injunction in seven days, plaintiff is given seven days thereafter to reply.

Allowing plaintiff to file a second amended and supplemental complaint also resolves many of the discovery disputes in this case. Plaintiff has moved to compel discovery pursuant to Rule 37. Defendant objected to discovery of documents related to Pac-Man on the grounds that they are not relevant. In light of the second amended and supplemental complaint, this objection must be overruled. Documents relating to Pac-Man are indeed relevant to this litigation and must be produced.

Unfortunately, other discovery disputes still remain. Plaintiff has made the following discovery requests:

> 13. All communications with customers or prospective customers relating to the sale or offering for sale of (a) memory boards which are offered for sale for the purpose of speeding up a Galaxian video game, (b) printed circuit boards, otherwise known as "mother boards" which may be used to construct either a GALAXIAN or PAC-MAN video game.
>
> 17. Copies of all sales invoices or other records of the sales of (a) memory boards which are advertised to speed up a GALAXIAN video game, or (b) printed circuit boards, otherwise known as "mother boards," construct GALAXIAN or PAC-MAN video game, the sales invoices

or other records including but not limited to the sales made at the AMOA Show in Chicago, Illinois on October 31, November 1, and November 2, 1980.

There can be no doubt that these documents are relevant. Aside from being relevant to the question of damages, the records will aid in identifying which of defendant's customers would be likely to have knowledge of the representations which defendant allegedly made in the sales of its products. These representations are relevant to plaintiff's claims that defendant has induced others to infringe plaintiff's rights in Galaxian and Pac-Man video games. Consequently, defendant is ordered to produce these documents.

There remains one final discovery dispute. Plaintiff has moved to compel the defendant to produce previously marked physical deposition exhibits at the depositions of defendant and its employees which were scheduled for May 12, 1981. These deposition exhibits were marked for identification in a deposition taken on December 18 and 19, 1981. The exhibits are located in defendant's counsel's office in Chicago. The deposition is to take place in New Jersey. Plaintiff has offered and continues to offer to pay for the transportation of these exhibits to and from the depositions. Defendant has offered to allow plaintiff to photograph the exhibits, but plaintiff contends that such photographs would be insufficient for use at the depositions.

Defendant opposes the transportation of goods on two grounds. First, defendant argues that it has already produced the exhibits once and that Rule 34 does not require it to produce the same exhibit twice. Defendant cites no authority for such an interpretation of the Rule. These exhibits will be necessary for use in the depositions. Pictures of complicated electronic equipment will not suffice for explanatory purposes. That the same exhibits are required at several depositions does not alter this result.

Defendant also argues that the goods are very fragile and that shipment may cause damage to them. The goods are worth

approximately $3,000-$4,000. This problem is easily solved if plaintiff agrees to insure the goods for their worth. If plaintiff agrees to insure the goods for their transportation to and from the depositions, defendant must produce them. If plaintiff refuses to insure the goods or promise to pay for any damage caused by their transportation, there is no obligation to produce the exhibits. As well, plaintiff will bear the cost of transportation.

Defendant's Motion for Partial Summary Judgment

This motion has generated a total of five lengthy briefs. The theory of this motion appears to shift every time defendant files another brief. When the court must apply legal principles to new areas of technology, it always appreciates briefs which clarify the issues in dispute. Unfortunately, these briefs only obscure the issues in this case. Nevertheless, the court will attempt to deal with the arguments presented in this motion.

Defendant has asked this court to find that "the manufacture, sale and distribution of its speed up kit * * * is not an infringement of any valid copyright of the plaintiff and is not an infringement of either Copyright Registration Numbers PA 59-977 or PA 68-323." Thus, the motion seeks, in the context of this case, very limited relief.

Plaintiff's copyright registrations are directed to the "play mode" and "attract mode" of the audio visual performance of plaintiff's "Galaxian Game." Under 17 U.S.C. § 401(c), the certificate of a registration constitutes prima facie evidence of the validity of the copyright and of the facts stated in the certificate.

Plaintiff asserts that the sale by defendant of its speed up kits violates two of its exclusive rights under 17 U.S.C. § 106(2) and (4). Specifically, § 106(2) and (4) give the owner of a copyright the exclusive right "to prepare derivative works based upon the copyrighted work;" and "in the case of * * * audiovisual works, to perform the copyrighted work publicly." A derivative work is defined under § 101 as "a work based upon

one or more pre-existing works, such as * * * any * * * form in which a work may be recast, transformed or adapted. A work consisting of * * * elaborations, or other modifications, which, as a whole, represent an original work of authorship, is a derivative work."

Plaintiff's theory of infringement is apparently as follows: Plaintiff has designated a certain game which consists of certain audio visual images. Plaintiff has copyrighted these audio visual images. Defendant sells a speed up kit which, when attached to plaintiff's machine by a third party, modifies those audio visual images. The new audio visual images, however, are similar to and incorporate the pre-existing copyrighted audio visual work. Thus, plaintiff claims that by marketing the speed up kit, defendant has induced others to *prepare* derivative works of plaintiff's copyrighted work by using speed up kits, and has also induced others to *perform* distortions of plaintiff's Galaxian game by using the speed up kits. Several courts have held, contrary to defendant's assertions, that there does exist a cause of action for contributory infringement. See, Gershwin Publishing Corp. v. Columbia Artists Management, Inc., 443 F.2d 1159, 1162, 170 USPQ 182, 184-185 (2d Cir. 1971); Universal Studios, Inc. v. Sony Corp., 480 F. Supp. 429, 203 USPQ 656 (C.D.Cal. 1979).

Defendant's arguments for partial summary judgment can be grouped into three major categories. First, defendant notes that when plaintiff applied for its copyrights, it submitted two video tapes of Galaxian being played. Defendant contends that plaintiff's copyright should be limited in scope to those two videotapes, and that, whatever else it may have done, defendant has not copied or induced others to copy these tapes. Defendant's second argument is that persons who use the disputed device are not "copying" Galaxian, and, as a result, it cannot be a "contributory" infringer. Finally defendant argues that the defense of unclean hands bars plaintiff from recovering on its copyright claims. Each argument is considered in turn.

1. Scope Of The Copyright.

There is a great deal of debate in the briefs as to what the copyright covers. When plaintiff applied for its copyright, it submitted two video tapes of the game Galaxian being played. As previously noted, defendant contends that plaintiff's copyright is limited to these movies. Plaintiff has suggested that the copyright extends to the game itself. Finally, it has been urged, as a fallback position by both parties, that the copyright extends only to the audio visual images that appear when playing the game. The question of what the copyright covers turns on disputed questions of material fact that must be resolved at trial. For instance, the parties hotly dispute the significance of the video tapes submitted to the Copyright Office. While defendant contends that a video tape was submitted as a *copy* of the work, plaintiff contends that the video tapes were only "identifying materials" and not a copy. See, 37 C.F.R. §§ 202.19(c)(6), 202.20(c)(2)(ix) and 202.21(b). Moreover, the court does not presently have before it the video tape and the game. Hence, differences between the two are impossible to comprehend on the present record.

Defendant asserts, however, that plaintiff is trying to use the copyright to cover the game itself and that as a matter of law, the copyright cannot cover the game. This contention must be rejected. Professor Nimmer has noted:

> "It is true that no copyright may be obtained in the system or manner of playing a game or in engaging in any other sporting or like activity. However, some limited copyright protection is nevertheless available in connection with games. It would seem that a relatively minimal artistic expression, if original, would render copyrightable labels for games, as well as the pattern or design of game boards * * *"

1 Nimmer on Copyrights § 2.18[H][3]. Here, plaintiff may well have copyrighted something akin to a "game board." That this "game board" is manifested on a television screen instead of cardboard is of no consequence. Put another way, plaintiff has apparently attempted to copyright the audio and visual ex-

pressions of its game. Thus, for example, it may have copyrighted the shape of the aliens, what they look like and how they move. Certain other aspects of the game, of course, cannot be copyrighted. For instance, plaintiff cannot copyright the idea of setting aliens in outerspace and having them swoop down on a flagship. Before ruling on the scope of the copyright, however, the court must more fully understand, inter alia, the events that transpired in the Copyright Office.

While defendant's next argument regarding the scope of the copyright is obscure, the contention deals with the requirement of § 102(a) that in order for copyright protection to exist, the "original works of authorship [must be] fixed in any tangible medium of expression * * *"[4] Apparently, defendant argues that "Galaxian" cannot be fixed because the movements of the images on the screen are responsive to the movements of the player. Thus, defendant argues that the only time the work was fixed was when plaintiff submitted the two video tapes of the game being played to the Copyright Office. Since plaintiff admits that defendant never copied these movies, the argument goes, defendant cannot be guilty of copyright infringement.

The fixation requirement will be satisfied if the work can be perceived "either directly or with the aid of a machine or other device." See, 1 Nimmer on Copyrights. § 2.03[B]. As the House Report states:

> "[I]t makes no difference what the form, manner, or medium of fixation may be—whether it is in words, numbers, notes, sounds, pictures, or any other graphic or symbolic indicia, whether embodied in a physical object in written, printed, photographic, sculptural, punched,

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[4] 7 U.S.C. § 101 provides: "A work is 'fixed' in a tangible medium of expression when its embodiment in a copy * * * by or under authority of the author is sufficiently permanent or stable to permit it to be perceived, reproduced or otherwise communicated for a period of more than transitory duration."

> magnetic, or any other stable form, and whether it is capable of perception directly or by means of any machine or device 'now known or later developed' * * * On the other hand, the definition of 'fixation' would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen, shown electronically on a television or other cathode ray tube, or captured momentarily in the memory of a computer."

The House Report on the Copyright Act of 1976, 94th Cong., 2d Sess. p. 52-53.

Application of this definition to the present facts is dependent upon the particular technology involved in producing the "Galaxian" images. The court has insufficient competent evidence of the technology involved to make the necessary determination. One commentator has suggested that fixation can occur in a television. 1 Nimmer on Copyrights, § 2.03 fn. 30. This would lend support to plaintiff's contention that the work was fixed in the game itself the first time the game produced the copyrighted audio-visual work. Conversely, if the technology of the game is such that it merely produces "transient reproductions" shown electronically on a cathode ray tube, no fixation could occur. The question of whether fixation occurred and in what tangible medium of expression, if any, the work was fixed is a question of material fact that cannot be resolved in this motion for summary judgment.

It should be noted, that the work was, at a minimum fixed in the tapes submitted to the Copyright Office. If defendant is inducing third parties to create a derivative work from the copyrighted work in these tapes, a cause of action may be stated.

Defendant's further argument—that it did not copy these tapes and consequently cannot be an infringer—cannot be sustained on this record. First, as noted, fixation may have occurred the first time the game was played; that is previous to and independent of the deposit of the video tapes. Second, even if fixation occurred with the deposit, defendant may have viewed "copies" of the tapes of Galaxian, and induced others to

prepare derivative works from those copies. Plaintiff does not necessarily have to show that defendant viewed the particular tapes submitted to the Copyright Office in order to state a cause of action. It is the work that cannot be copied or incorporated and not the specific tangible expression on file in the Copyright Office.[5] In sum, the question of fixation and the scope of the copyright present questions of material fact, and summary judgment on this theory would be inappropriate.

2. Lack Of Copying Or Inducement

Defendant argues that it has not copied plaintiff's work or induced others to copy that work. Rather, defendant contends that it produces a device which consumers desire and whether the consumers put that device to a lawful or unlawful use is not defendant's concern. Plaintiff counters that an infringement arises regardless of whether defendant itself has copied the protected work. That is, it argues that the sale of the speed up kits enables others to make and perform unauthorized alterations of plaintiff's copyrighted material.

The court realizes that it is not dealing with an ordinary copyright question. It seems clear that the framers of the Copyright Act did not consider the specific problems raised by advanced electronic games. Nevertheless, the Act reflects certain policies and principles which control the question at hand. The Supreme Court summarized the governing principles of the Act as follows:

> "The copyright law, like the patent statutes, makes reward to the owner a secondary consideration * * * However, it is intended definitely to grant valuable, enforceable rights to authors, publishers, etc., without burden-

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[5] It should be emphasized that merely because the work is fixed in the tapes submitted to the Copyright Office, it does not necessarily follow that the tapes are the works themselves. The original work of authorship should not be confused with the material objects in which the work must be fixed. See, 1 Nimmer on Copyrights § 2.03.

> some requirements; to afford greater encouragement to the production of literary [or artistic] works of lasting benefit to the world * * * "The economic philosophy behind the clause empowering Congress to grant * * * copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.' "

Mazer v. Stein, 347 U.S. 201, 219, 100 USPQ 325, 333 (1954). Thus, the Copyright Act rewards individuals for their unique creative efforts. It provides an incentive for individuals to engage in artistic endeavors by forbidding any other person from copying their original expressions of ideas.

This policy underscores the reasons why Congress in § 106(2) gives the owner of a copyright the exclusive right to prepare derivative works from the copyrighted work. Professor Nimmer has explained the substantive content of § 106(2) as follows:

> "Unless sufficient of the pre-existing work is contained in the latter work so as to constitute the latter an infringement of the former, the latter by definition is not a derivative work. Therefore if the latter work does not incorporate sufficient of the pre-existing work as to constitute an infringement of either the reproduction right, or the performance right, then it likewise will not infringe the right to make derivative works because no derivative work will have resulted."

2 Nimmer on Copyright § 8.09[A]. Thus, if the latter work does incorporate sufficient portions of the pre-existing work it has infringed the right to prepare derivative works. By forbidding a third person from creating a work based on a pre-existing copyrighted work, the author is assured that he will reap the profits from his artistic contribution in accordance with the policies of the Act. Plaintiff argues that, when Galaxian is played with the speed up kit, visual images are reproduced in a manner substantially similar to the visual images originally copyrighted. The resulting visual image is therefore said to incorporate the images copyrighted by plaintiff, creating an unauthorized derivative work.

The court believes that the success of this theory depends on the resolution of two key factual questions. The first factual question concerns the scope of the copyright. It is, of course, impossible to tell whether defendant has induced others to prepare a derivative work, when the court is uncertain as to what original work was copyrighted. As noted, the scope of the copyright is in dispute between the parties. Second, there is also the factual question of whether the speed up kits are designed and used solely to modify the visual images of plaintiff's copyrighted game or whether the device can be used in a variety of electronic games. The distinction is crucial in relation to the policies underlying the Copyright Act.

As noted, the copyright law is designed to reward creative and artistic endeavors. It gives the author the exclusive right to distribute copies of that work and make derivative works from the original. If defedant's device is designed and used solely to modify plaintiff's visual image, then plainly defendant's device would only have value because of plaintiff's particular copyrighted audio visual work. Defendant, thus, by selling its device reaps the benefits of plaintiff's artistic endeavor. Such conduct would be violative of § 106(2).

If, on the other hand, defendant's device is used on a multitude of electronic games, defendant has made a technological contribution which has value in itself. That is, it is not so much a modification of plaintiff's specific audio visual work, as it is a technological improvement of all audio visual works of this type. In marketing such a product, defendant would reap the benefits of his own creativity and ingenuity, not plaintiff's. Indeed, far from being harmed by such a device, persons, who, like plaintiff, work in the enhanced medium are the principal beneficiaries of such inventions. Thus, far from inhibiting creativity in a particular medium, technological breakthroughs are more likely to engender it. Accordingly, if defendant's device is one which enhances all video games, it would be anomalous to apply the copyright laws to inhibit its distribution. An example may clarify the point.

Suppose an ingenious engineer invents a device which can be attached to a motion picture projector which will modify movie actors' movements, making them quicker or more graceful, for instance. Several owners of copyrights in various movies sue the inventor, claiming he is inducing preparation of a derivative work. No infringement should be found to occur, for the inventor has merely created a device which enhances the pleasure given by movies generally. If such a copyright claim were upheld, common technological advances like technicolor or panavision would become illegal. If, on the other hand, the device is designed and can only be used to modify one movie which is copyrighted, a copyright violation does occur; for on these facts, the ingenious engineer is no longer enhancing the medium of cinema, but is reaping the benefits from the artistic endeavors of another author.[6]

A second reason why technological breakthroughs of general utility do not constitute copyright infringements was proffered in the case of Universal Studios v. Sony Corp. of America, 480 F.Supp. 429, 459-461, 203 USPQ 656, 686-689 (C.D.Cal. 1979). There, plaintiff, a producer of copyrighted motion pictures, sued defendant Sony on the theory that, inter alia, the manufacture, advertising, demonstration and sale of the Betamax (a home video recording system) induces or materially contributes to the unauthorized recording of copyrighted motion pictures. The court found that there was no contributory infringement because, inter alia, all defendant did was manufacture, distribute, advertise and sell a product of a variety of uses, some of them lawful, some, allegedly infringing. 480 F.Supp. at 461, 203 USPQ at 688-689. As the court noted:

> "Selling a staple article of commerce—e.g., a typewriter, a recorder, a camera, a photocopying machine—technically contributes to any infringing use subsequently made thereof, but this kind of 'contribution,' if deemed

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[6] This discussion assumes, of course, that all the elements for contributory infringement are satisfied.

> sufficient as a basis for liability, would expand the theory beyond precedent and arguably beyond judicial management."

480 F.Supp. at 461, 203 USPQ at 688. See, also, Fortnightly Corp. v. United Artists Television, Inc., 392 U.S. 390 (1968). Because the record is in conflict as to whether defendant's speed up kit can be and is used in other ways than to prepare derivative works from plaintiff's copyrighted audio-visual work, this theory of summary judgment must be rejected.

3. Unclean Hands

Defendant also contends that plaintiff has "exhausted its rights" in the game. That is, defendant claims by bringing this suit, plaintiff is trying to use its copyright to create a monopoly in the replacement part market, and that this use of the copyright bars this suit to enforce it. Defendant, however, has cited no trademark cases to support this proposition. Rather, it relies solely on patent law cases. Even if patent law were applicable, there remains a factual question as to whether defendant's speed up kit is a replacement part and whether defendnat is in competition with plaintiff. Plaintiff contends that the speed up kits are not replacement parts and that defendant is not in competition with plaintiff because plaintiff does not sell such kits.

Moreover, defendant's assertion is in reality a claim that plaintiff is attempting to monopolize the replacement market in violation of the antitrust laws. The general view is that a violation of the antitrust laws is not a defense to a copyright infringement action. See, 3 Nimmer on Copyrights § 13.09[A] and cases cited therein. Plaintiff's defense of "unclean hands" is recognized "only rarely, when the plaintiff's transgression is of serious proportions and relates directly to the subject matter of the infringement action." 3 Nimmer on Copyrights § 13.09[B] p. 13-112. The question presented here, whether plaintiff is attempting to monopolize the replacement part market, does not relate directly to the claim of copyright infringement. Consequently, for all of these reasons, this theo-

ry cannot form the basis for granting summary judgment in defendant's favor.

Defendant's Motion To Dismiss

While this motion is brought under F.R.Civ.P. 12(b)(6), it must be treated as a motion for summary judgment due to the supporting evidentiary documents and affidavits attached. F.R.Civ.P. 12(b). Thus, the court is presented with defendant's second motion for summary judgment.

Defendant contends that plaintiff does not own the trademarks and copyrights in question. It asserts that Namco, Ltd., is the true owner of the copyrights in question. Consequently, it contends that the complaint must be dismissed. Plaintiff has submitted the affidavit of one of its vice-presidents, certificates of registration and an assignment of copyrights to show its ownership of the Galaxian and Pac-Man copyrights. As previously noted, under § 410 of the Copyright Act, Midway's certificates of registration constitute prima facie evidence of the validity of the copyrights and of the facts stated in the certificates. The certificate states that Namco Ltd. assigned "the entire right, title and interest in statutory copyright for the Galaxian and Pac-Man games to Midway." Thus, at best, defendant's contentions raise an issue of material fact as to who owns the copyrights in question. Thus, summary judgment on this theory is inappropriate.

Artic also argues that Namco continues to use the trademark in question as its own and consequently the trademark infringement claims must be dismissed. Plaintiff, however, has introduced evidence that Namco assigned these trademarks to plaintiff in May of 1980. As well, Midway contends it acquired common law trademark rights in Galaxian by virtue of extensive use of the mark in interstate commerce. It has submitted competent evidence to support this contention. Once again, at best, defendant has raised a question of material fact as to the ownership of the trademarks and summary judgment is inappropriate.

Defendant, in its reply brief on this motion, requests this court to join Namco as an indispensable party. While the court will entertain an appropriate motion to join an indispensable party, it will not entertain this one. Defendant should not make such a motion in a reply brief because it fails to conform to the local rules and more importantly denies plaintiff an opportunity to respond.

First Motion For Sanctions

Defendant claims that plaintiff is guilty of misconduct before this court. Specifically, defendant claims that plaintiff failed to disclose an adverse prior decision involving these copyrights which should be given res judicata effect by this court. It requests this court to dismiss the lawsuit as the result of such alleged misconduct.

The motion and these factual assertions have no merit. The prior case in question is Midway Mfg. Co. v. Universal Co., Ltd., (C.D.Cal.) In that case, Midway sued Universal for copyright infringement. The Customs Service had withheld delivery of 45 of Universal's games on the grounds that they might be piratical copies of Midway's game Galaxian. Universal moved for a preliminary injunction to prohibit Midway from making representations to the Customs Service which might impede entry of Universal's games into this country. The court denied the preliminary injunction, holding that Midway's right to proceed before the Customs Service is protected by the First Amendment.

As part of the interlocutory judgment the court found that Universal had raised serious questions on the merits of Midway's copyright claims which are a fair ground for litigation. As well, it stated, "Many of the elements of Galaxian for which plaintiff [Midway] seeks copyright protection are general principles and therefore unprotectible." The court went on to note that there were several protectible aspects of Galaxian. The case was subsequently settled and a consent decree was entered.

The interlocutory judgment in that case cannot have any res judicata effect in this proceeding. A finding of a court on a preliminary injunction is interlocutory and does "not amount to an adjudication of the ultimate rights in controversy, is not conclusive on the Court on a subsequent hearing, and concludes no rights of the parties." Hunter v. Atchison, T. S.F. Ry. Co., 188 F.2d 294, 298 (7th Cir. 1951), cert. denied, 347 U.S. 819.

Moreover, the court notes that the finding that Midway sought protection for many elements of the Galaxian game that are not copyrightable is dicta in view of the court's disposition of the case on First Amendment grounds. Obviously, dicta, cannot be given res judicata or collateral estoppel effect.

As well, the issue presented in the Universal Co. Ltd. case is different from the issue involved here. Finally, this court has already reached a similar conclusion regarding the scope of plaintiff's copyright in this opinion. See p. 5-6. In sum, that judgment cannot be given res judicata effect, and even if it were given res judicata effect, it would have no effect on the court's disposition of these motions.

Defendant contends that even if the judgment has no res judicata effect, plaintiff has violated its duty of candor to this court by failing to disclose that it was involved in prior litigation on these copyrights as required by Local Rule 2.31B. Local Rule 2.31B provides in part: "At the time of filing any action, counsel shall indicate on the designation sheet any previously filed case to which the case being filed is related." The purpose of this requirement is to allow one judge in this district to hear all cases pending in the district which are related to each other. In sum, the local rules require counsel to indicate whether any previously filed case in this district is related to the current case. Moreover, under the definition of "relatedness" in the local rules, defendant has failed to show that the two cases are related.

Thus, the court finds no violation of the local rules in plaintiff's conduct. Moreover, even if the local rules were violated,

the court has found no authority to dismiss a lawsuit on that basis. Consequently, defendant's first motion for sanctions is denied.

Second Motion For Sanctions

Defendant has made a second motion for sanctions. It again claims that plaintiff violated its duty of candor to this court, this time by failing to disclose that it had a pending application to register its alleged trademark Galaxian in the U.S. Patent and Trademark Office. Moreover, defendant claims plaintiff failed to disclose the fact that the Trademark Office issued an Official Action Letter rejecting the trademark. Despite this rejection, plaintiff's motion for a preliminary injunction preventing defendant from infringing plaintiff's trademark is currently before this court. Defendant also stated that he had "requested documents from plaintiff" and plaintiff did not produce the trademark application or rejection document.

It must be noted that Midway's claim of trademark infringement is based solely on its common law rights derived from extensive use of the Galaxian trademark in commerce and not on any federal registration. Moreover, the reason for the rejection of the trademark application was that Bally, Midway's parent corporation, held a trademark entitled "Galaxy Ranger" and consequently, confusion might result if Midway's Galaxian trademark was issued. The court has evidence indicating that Bally is transferring its trademark to Midway and that this will remove the obstacle to obtaining a Galaxian trademark.

While it may well be that the parties to a lawsuit have a duty of candor before this court, plaintiff has not violated any duty that may exist. Since plaintiff's theory is common law infringement, it had no duty to disclose, on its own motion, the fact that its trademark application had been rejected. That fact, given the reasons for the rejection, is irrelevant to plaintiff's claim in the preliminary injunction. This is not, as defendant suggests, an ex parte proceeding. The overwhelming number of motions defendant has filed is proof of that. If information adverse to

plaintiff's claim exists, it is defendant's duty to discover such information and show its relevance to these proceedings. Plaintiff's counsel has not misled this court in any manner. This court is aware of no decision that imposes a duty on a party to proffer to the court on its own motion, information that may prove detrimental to that party's claim. Here, the information withheld may not even be relevant to plaintiff's claims.

Defendant claims that plaintiff failed to disclose this information in response to its discovery requests. Defendant's discovery requests, however, were phrased very broadly and while plaintiff complied with some of them, it objected to others. Defendant has failed to cite the specific discovery request it feels was not complied with. If defendant is unhappy with plaintiff's responses, it should hold a conference pursuant to the local rules with plaintiff's counsel. If the disagreements still cannot be worked out, defendant may move to compel discovery under Rule 37. Here, defendant has not stated which discovery request was not complied with, the parties have not held a 12(d) conference, and defendant has not made a motion to compel discovery. The court must admonish defendant's counsel that its discovery requests must be substantially more specific than the request made in this motion. A request to "turn over all documents relevant to the issues in this litigation" does not conform with the requirements of the Rules of Civil Procedure.

While the court hesitates to make a lengthy opinion any longer, one final statement is needed. The length of the briefs in this case, the lack of substance contained in some of those briefs and the excessive number of motions in this case cannot be justified. While the court does not wish to deter either party from filing legitimate motions, frivolous motions will be denied summarily. In addition, attorneys' fees and costs will be imposed. As well, the court orders full cooperation on the part of both parties in the discovery process. Failure to fully cooperate in discovery and to respond to legitimate discovery requests will result in severe sanctions.

For the reasons stated above, plaintiff's motion for leave to file a second amended and supplemental complaint is granted; plaintiff's motion to compel discovery under Rule 37 is granted; plaintiff's motion to compel defendant to produce previously marked physical deposition exhibits at the depositions of defendant and its employees is granted, provided that plaintiff pay the costs of transportation and insurance; defendant's motion to strike plaintiff's amended motion for a preliminary injunction is denied; defendant's motion to strike superfluous material from the amended and supplemental complaint is moot; defendant's motion for partial summary judgment is denied; defendant's motion to dismiss the complaint is denied; and defendant's motion for sanctions are denied.

APPENDIX D

Midway Mfg. Co. v. *Artic International, Inc.*

U.S. District Court, Northern District of Illinois, Eastern Division. No. 80 C 5863. Dated June 11, 1981.

Memorandum Opinion and Order

DECKER, D.J.: Currently pending in this case is defendant's motion for reconsideration of this court's order striking two of defendant's affirmative defenses. The facts in this case are recited at great length in this court's recent memorandum opinion and order and need not be repeated here.

On March 17, 1981, this court struck defendant's eighth and ninth affirmative defenses, severed defendant's antitrust counterclaims and stayed discovery on the antitrust counterclaims. Defendant asks this court to vacate that portion of the order striking the affirmative defenses.

Both these affirmative defenses relate to the alleged use of the copyrights in question as part of alleged antitrust violations. Specifically, the ninth affirmative defense claims that plaintiff has unclean hands because it allegedly entered into an agreement with Namco, Ltd., whereby plaintiff and Namco split the world market for certain electronic games. It is undisputed that defendant does not manufacture these electronic games. The question presented is whether this alleged antitrust violation constitutes a valid defense to plaintiff's cause of action.

While defendant relies heavily on Professor Nimmer's treatise, the court does not believe defendant has interpreted the treatise correctly. As Professor Nimmer has written:

> Does the fact that a plaintiff in a copyright infringement action is himself guilty of violation of the antitrust laws constitute a valid defense in the infringement action? Those cases which have ruled on this question have in the main held that no such defense may be claimed. This is for the reason that one who has entered into an illegal contract does not thereby place himself outside the protection

of the law so as to permit others to injure him with impunity. 3 *Nimmer on Copyrights*, § 13.09[A], p. 13-110.

Defendant, however, points to a series of cases involving alleged infringement of patents. In those cases the Supreme Court was dealing with patentees who were using their legal monopoly over the patented articles to gain control over markets that the patents did not cover. The Supreme Court held that a court of equity may decline to protect a patent thus misused against infringement by means of an injunction. See, e.g., *Mercoid Corp.* v. *Mid-Continent Investment Co.* [1944-1945 TRADE CASES ¶ 57,201], 320 U. S. 661 (1944); *Morton Salt Co.* v. *G. S. Suppiger Co.* [1940-1943 TRADE CASES ¶ 56,176], 314 U. S. 488 (1942). The Supreme Court has subsequently implied that the same rule may apply where copyright owners enjoy analogous market dominance over thieir copyrighted articles enabling them to exert anticompetitive pressure in non-copyrighted articles. *United States* v. *Loew's Inc.* [1962 TRADE CASES ¶ 70,537], 371 U. S. 38, 45 (1962). The Supreme Court, however, has not yet directly addressed the question.

The court has found no authority which compels it to apply the reasoning of *Mercoid* and *Morton Salt* where, as here, defendant does not compete with plaintiff for the market for electronic games and is not injured by the alleged antitrust violations. *Cf.*, *Brunswick Corp.* v. *Pueblo Bowl-O-Mat, Inc.* [1977-1 TRADE CASES ¶ 61,255], 429 U. S. 477 (1977) (in antitrust action, plaintiffs must prove that they suffered the type of injury that the antitrust laws were intended to prevent and that flows from that which makes defendant's acts unlawful). Moreover, even assuming that the rationale of *Mercoid* and *Morton Salt* extends to such fact situations, it would not benefit defendant. Defendant has failed to indicate specifically the nexus between plaintiff's alleged anticompetitive actions and its use of copyrighted material. Unlike the claims of the patentees in *Mercoid* and *Morton Salt*, defendant's ninth affirmative defense does not indicate how plaintiff is alleged to have used its legal monopoly over copyrighted material to exert anticompetitive power over non-copyrighted material. Under

such circumstances, the so-called unclean hands defense is no defense at all. *Orth-O-Vision, Inc.* v. *Home Box Office* [1979-2 TRADE CASES ¶ 62,858], 474 F. Supp. 672, 686 (S. D. N. Y. 1979).

The eighth affirmative defense claims that plaintiff is attempting to monopolize the market for replacement[1] parts by use of its copyright. Specifically, defendant claims that plaintiff is using its copyright to extend its monopoly into the replacement parts market by threatening defendant with copyright litigation if defendant supplies such replacement parts, by bringing this civil action against defendant.

The thrust of defendant's counterclaim is that plaintiff is attempting to put defendant out of business by attempting to enforce its disputed copyright. Notwithstanding this characterization of plaintiff's conduct, "a party's assertion of non-frivolous legal positions before courts or other adjudicatory bodies does not violate the antitrust laws even if there are anticompetitive motives for doing so (citations omitted)." *Orth-O-Vision*, 474 F. Supp. at 686-687. Thus, plaintiff's good faith effort to enforce its copyright cannot be said to contravene the antitrust laws.[2] *Orth-O-Vision, supra;* see, *Alberto-Culver* v. *Andrea Dumon, Inc.* [1972 TRADE CASES ¶ 74,138], 466 F.2d 705, 711 (7th Cir. 1972).

In sum, the court adheres to the general rule that alleged antitrust violations do not form valid defenses to an action for copyright infringement. Moreover, even if the court followed those cases that indicate that an antitrust violation does constitute a valid defense to a copyright action, the rationale of those cases is inapplicable to the instant case.

For all the reasons stated above, defendant's motion for reconsideration is denied.

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[1] The term replacement parts is actually a misnomer. Defendant sells certain speed up kits which alter the copyrighted audiovisual images. Plaintiff does not sell these speed up kits.

APPENDIX E

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

Judge Decker

Civil Action No. 80 C 5863

MIDWAY MFG. CO.,
a corporation,

Plaintiff,

v.

ARTIC INTERNATIONAL, INC.,
a corporation,

Defendant.

PRELIMINARY INJUNCTION ORDER

The Court, having heard the parties and been fully advised of the premises, it is hereby Ordered, Adjudged and Decreed that defendant, its agents, officers and servants, and all acting in concert with defendant, be and are enjoined preliminarily during the pendency of this action:

1. From infringing Midway's copyrights in the GALAXIAN and PAC-MAN (or PUCKMAN) video games in any manner; from inducing others to infringe such copyrights; or from contributing to any such infringement;

2. From the manufacture, reproduction, adaption, sale, offering for sale, transfer, lease, rental, distribution, operation, public performance or public display of any electronic video games, any components of video games or other material, such as printed circuit boards or components thereof such as ROMs, PROMs and EPROMs, that are copies or derivative works of and/or produce an audiovisual work which is substantially similar to the audiovisual works in plaintiff's GALAXIAN or PAC-MAN (PUCKMAN) video games.

In accordance with Rule 65(c), Federal Rules of Civil Procedure, it is further ORDERED that Plaintiff's bond in the

amount of $35,000.000 shall be deemed adequate security for the payment of such costs and damages as may be incurred by any party found to have been wrongly enjoined, such bond to be filed no later than the 23rd day of March, 1982.

ENTER:

/s/ Bernard M. Decker
BERNARD M. DECKER
United States District Judge

DATED: March 18, 1982.

Appendix F

RELEVANT PARTS OF STATUTES INVOLVED

Copyright Act of 1976, 17 U.S.C. §§ 101 *et seq.*

§ 101. Definitions

As used in this title, the following terms and their variant forms mean the following:

* * *

"Audiovisual works" are works that consist of a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied.

* * *

A "derivative work" is a work based upon one or more pre-existing works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a "derivative work".

§ 102. Subject matter of copyright; In general

(a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

(1) literary works;

(2) musical works, including any accompanying words;

(3) dramatic works, including any accompanying music;

(4) pantomimes and choreographic works;

(5) pictorial, graphic, and sculptural works;

(6) motion pictures and audiovisual works; and

(7) sound recordings.

(b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operations, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

* * *

§ 106. Exclusive rights in copyrighted works

Subject to sections 107 through 118, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

(1) to reproduce the copyrighted work in copies . . .;

(2) to prepare derivative works based upon the copyrighted work;

(3) to distribute copies . . . of the copyrighted work to the public by sale or other transfer of ownership . . .;

(4) in the case of . . . motion pictures and other audiovisual works, to perform the copyrighted work publicly; . . . .

§ 117. Limitations on exclusive rights: Computer programs

Notwithstanding the provision of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

(1) that such a new copy or adaptation is created as an essential step in utilization of the computer program in conjunction with a machine and that it is used in no other manner, or

(2) That such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.

* * *

§ 501. Infringement of copyright

(a) Anyone who violates any of the exclusive rights of the copyright owner as provided by sections 106 through 118, or who imports copies or phonorecords into the United States in violation of section 602, is an infringer of the copyright.

* * *